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## **INFANT STIMULATION KIT**

**Material Compiled by: Mrs. Mary Ann Newcomb  
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**Note: Obtain the Denver Developmental Scale from any sales representative of Meade and Johnson. It should, however, be used in conjunction with the Bayley Scale or another infant scale of your choice. In addition, it is essential to become familiar with the work done by Una Haynes, as well as the Bobaths, in any early intervention with atypical infants.**

**M.A. Newcomb**





## GENERAL STATEMENT . . . . . by Ursula Jacobs

### The Value of Developmental Evaluation (or Assessment) of Functioning in an Ongoing Educational Program for Babies and Young Children with Developmental Lags or Atypical Status.

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Several Purposes are served by repeated studies, at intervals, of developmental status. The rate of change in the very young is so rapid, even in children with significant developmental lags, that very acceptable measures of rate of progress are obtainable over a period of 3 months to a year. Knowing the rate of progress makes for more appropriate expectations over time with anticipation of what to expect, and how soon, greater accuracy - therefore minimizing the emotional effects of incongruent expectations and pressures and shaping immediate future planning.

The developmental changes that occur, as a human being matures, follows the same series of changes. Children with atypical status usually develop more slowly and attain certain less advanced ceilings, however. Actually there is more certainty about the rate of progress than there is about ultimate levels of functioning, in any particular child.

The assessment of functioning, at intervals, must serve as a means of viewing the child in terms of specific interventionary educational programing in less advanced functions. This does not mean that learning experience involving more advanced areas should be neglected or ignored, but rather that special attention should be directed to less advanced areas - perhaps entertaining small specific incremental goals coupled with equal attention to the means for effecting them. We should try to relegate unitary "scores," in our thinking, to the mind's "Inactive File" and concentrate on the elements of Patterning of Abilities.

It is important to look for and consider temperamental style as an essential part of the assessment procedure because of the direct bearing that temperament has on adaptive reactions and responses to the environment. For example, an exuberant, impulsive child may not stop to consider alternatives in approach to solution and, in a learning situation, needs to have alternatives explicitly pointed out, or to have verbally directed instruction to "slow down" and/or "look" at everything. A sensitive, or fearful child requires special encouragement, slower introduction into the learning situation and "muted" reactions by the teacher because of over-reaction to minimal stimuli or implied criticism in voice quality.

The developmental evaluation can be used to counsel with parents, in relation to helping them achieve a realistic picture of their child at a point in time, thereby increasing the chances for their appropriate awareness and responsiveness. It is often necessary to be very specific in getting parents to think realistically, i.e., comparing what their child does, in a certain area, with age-appropriate reactions in that area. The developmental evaluation can also be used with parents to develop points of focus for specific goals at home - particularly in self-help skills, and in carrying out, or reinforcing specific goals developed at school.

Sharing specific incremental gains which have been made, with parents, measured by developmental evaluations over time, should be part of the ongoing programming. This can be an enormously heartening experience to parents (as well as to staff), spurring them on to carrying out further and future activities which are relatively inconvenient or "a bother."

Ongoing evaluation also serves the important function of teaching people not to harbor preconceived notions about learning and developmental status since we really do not know what course an individual child's development will take, especially under the impetus of a 0-3 program.



## HOME VISITATION PROJECT WITH MR INFANTS

Materials to be taken in a basket with you for Each Home Visit

(You will want to vary this list from time to time and to supplement depending upon the developmental level of the infant and whether or not the child is suffering from such sensory deprivation as blindness or deafness or both.)

(You should encourage parents to obtain the same materials to be kept in a separate basket or box and to be used daily with the infant.)

Many of these materials can be obtained from the school.

balloons with string

mirror

flashlight

noisemaker

large, firm ball

two-inch paint brush

terry cloth mit or wash rag

section of sandpaper

small bells sewed on elastic to place on hands or ankles

piece of satin or silk cloth

piece of fur

roll of bandage to cover one part of the body, such as hand or foot

rather heavy bean bag

feathers (good supply as will want to throw away after each use.)

brightly colored rattle

five plastic, large, brightly colored blocks

bottle with large neck and several pellets

a small, soft, rag doll

a children's book with large, clear, simple pictures or several pictures mounted on tagboard of objects familiar to the child in his home environment.



simple three piece puzzle

colored, matching cut-outs of square, circle, triangle

a small ball attached with string or rubber ( to use with focusing )

a hand puppet, preferable one in which the mouth can be manipulated

As the person making the regular home visit to the parents of the mentally retarded infant, your job will have many areas of responsibility; however, there are two facts that are highly important if you are to have a real effect upon the infant and the parents, namely, 1. You will determine, along with the parents' help, the developmental level of the child. You will use the developmental scales given to you to help determine this. If the child is at eight months in C.A., you will start at this sheet or level and work backwards until you find the present level of functioning in motor areas, adaptive behavior, language, and personal-social areas. The present level of functioning is all important, for it is at this point that you begin, and you will proceed, sequentially, to provide the infant with the experiences necessary to attain the next level of development. For example: If home visitor finds that the infant does not regard a toy when held in the midline over his chest, the home visitor will repeatedly attempt this and will pass the toy across the midline of the child or pass it, to aid the infant, by her movement across the midline and by repetition, to begin noticing the toy when merely held at the midline of the chest.

2. You will also determine at what level, emotionally, the parent is functioning. This may range all the way from denial and resentment to complete co-operation and eagerness. You may not be able to do more initially than be a sounding board for the parent or to simply play with the baby while mother goes and does some much-needed-to-be-done chore. The staff will make every attempt to explain to the parents the purpose of the home-visits; however the real understanding



and acceptance of the program will depend upon your effectiveness in being able to genuinely care for the child and his parent at whatever level you find them. It has long been observed by people working with infants and young children that the younger the child the greater is the degree of rapport established between the worker and the family.

As mentioned earlier, the four areas of responsibility will be the motor area, the adaptive behavior area, Language area, and Personal-social area. You will have the constant support of the physical therapist to consult with you in all areas of motor development. In addition you will have the Marin County Public Health Nurse on Mental Retardation to assist you in specific areas such as feeding, drooling, chewing, and sleep patterns, etcetera.

It is through individually planned, sequentially organized sensorial stimulation that we may hope to help these infants and their parents utilize whatever potential the baby may have. A child learns all he knows; very little comes with him at birth except the basic machinery for learning, and children must even learn how to learn. The infant must learn to see, hear, feel, smell, and taste if the machinery for each is present and he can be helped to learn how to use it. Because the babies with whom you are going to be working are all suffering some developmental lag, or from some form of sensory deprivation, it will be necessary for you to aid the parent in providing the necessary experiences for their baby to begin to learn.

As you work together in finding the developmental level of each infant, you will be helping the parent to accept and face the reality of exactly where their child is functioning; and your presence in the home on a regular basis will assist the parent, on a day by day basis, to cope with this reality effectively and with purpose. It is as though you will be saying "Here is where our baby is and this is what we are going to do about it."

Each child has his stake in growing up and for those of us who have been working with very young retarded children over a period of years has come the deep realization that all children are striving for growth and homeostasis; that each child is always ready to learn something; that the position of "wait and see" is no longer tenable in the face of mounting research. If, through your own faith in this baby's desire for integration and wholeness, you can impart this to the parents, they, in turn, will begin to lose their sense of hopelessness and helplessness. Remember that you inch your way; that you will plan only from one session to the next, and that you will keep your directions to the parents for their own individual work-sessions with their child simple and for short periods of time.

Here are some suggestions for observation in the home in order to determine how much stimulation the child receives from the daily environment in which he lives:

1. Are there bright objects hanging across the crib?
2. Are there bright objects hanging at the sides of the crib?
3. Is there a mobile hanging into the crib?
4. Are there soft, cuddly stuffed animals in the crib?
5. Is there a radio in the room?
6. Is the crib moved frequently in the room?
7. Is there a light left on in the room at all times?
8. Is the baby put in a play pen?
9. Does the baby have access to the entire house?
10. Are there containers for the baby to nestle?
11. Is the baby allowed to play in the cupboards with the pots and pans?
12. Are there rattles and other items that make noise when the baby shakes them.
13. Does the baby receive rocking, holding, cuddling?  
Does the mother seem relaxed with the baby?  
Does the mother talk to the baby, sing to him?  
Does the baby get moved around from room to room?
14. Is the infant over a year old, does he have appropriate toys? . . . a hammering board, a gadget board, blocks, large ball, pull toys, stuffed animals, a color cone, and noise makers?

15. What methods does the baby use to get attention? Does he usually only receive negative attention? What is the bathing time like? How does the mother feed this child? Does he take a bottle propped on a pillow? Does she hold him? Is he on a bottle past two years of age? Does he take any solid foods? Has a cracker been offered to him?
16. Is the baby making sounds? Does he babble? Does he make grunting noises? Does he mimic? Does he smile? Is he afraid of strangers? Does he shake his head or say, "no, no" or in any other way show resistance?
17. Are there siblings? Do they interact with the baby? Do the siblings or the parents rough house with him? How often is the baby placed on the floor? When on the floor is he placed on his stomach in order to facilitate mobility? Are toys placed on the floor before him to motivate him to move?
18. If he is a "good" baby, is it your feeling that he is simply cared for and ignored because this is no trouble? Does he then meaninglessly persevere with objects?
19. Has the child a faulty crawling pattern? Does he seem hyper or hypo-active to you?
20. Do you notice any kinesthetic disturbance such as rocking, whirling, jangling, arms, or hopping up and down repeatedly?
21. Can the baby focus on objects at all? Does he still use the mouth to explore the world around him? Or is he using sense of touch (tactile) to explore the world and not really using his eyes?
22. Does he respond to sound? Does he startle at loud noise? Does he turn his head in the direction of sound? If crawling or walking, does he go in the direction of sound, such as telephone?
23. Is he fearful of you or readily accepting or simply ignoring?
24. Would you say this is a home in which there is too much stimulation...to little... a warm, loving atmosphere or too rigid, too neat?
25. Do the parents play with the baby on the bed? Do they take him with them to visit, to shop, to dine out? Is the baby with the mother in the kitchen when she is cooking? Is there music... radio, television, or record player? Are there children's records?
26. Is the child a self-mutilator? Does he bite or hit himself?



\*\*\*\* It is well to caution the home visitor that over-stimulation is as bad for young children as under-stimulation. The most relevant and pertinent factor seems to be an abundance of stimuli presented in a variety of ways and at different times and in sequence, appropriate to the developmental level of the baby. Even young babies tend to simply block out an environment which contains sameness. Thus the child needs to be presented with constant change of stimuli, even when you are presenting this stimuli for a constant goal. An example would be in teaching the young child to focus--use the flashlight, the ball with string; the young baby also needs to learn to listen, so the home visitor would use the voice in speaking, in simply making vowel sounds, in singing, and also the use of various bells, noise makers, and rattles.

When the child has reached the developmental level of six months, it is time to encourage the parents to place toys in various positions rather than always in their hands. This is the time for the beginning of fascination with appearance and disappearance and peek-a-boo is very good for this and will also aid in visual perception. The parents should encourage movement at all levels but here particularly the baby should be encouraged to move from one place to another, either by creeping or crawling.

At all levels one should expose the baby to different textures; however at the 7-8 month level textures, weights (use bean bags tied on arm or leg to disturb gravity), sizes, forms, and properties and the exploration of the shapes and sizes of objects and toys should be introduced one at a time.

At nine months the infant should be encouraged to specifically instead of indiscriminately manipulate such objects as a ball, spoon, rattle, or paper. The infant from this time on needs much practice and many experiences in the manipulation of a variety of forms and shapes or he may continue the stereotyped turning, banging, shaking behavior beyond the appropriate age-level. If he has many experiences with a great many objects, introduced separately, he will learn to manipulate properly.



Zofia Babska of Warsaw, Poland stresses the importance of taking your cues from the child himself, his physical development and the degree of comfort he is able to achieve while enjoying the play and the time of sensorial stimulation. The ages, then, are only a cue to indicate the approximate time that the child might be ready for the above mentioned experiences. Babska suggests that one should croon and coo to the baby and gently dance him up and down so that toes and feet touch the floor or the bed.

When the infant seems to start becoming interested in pictures, the mother should be encouraged to look at pictures with the child, naming the objects or animals in the picture to the child. She should begin telling him simple stories with pictures. It has been found with culturally deprived children that reading to them one-half an hour daily actually raises the intellectual potential in many of these children.

The home-visitor, whether she be a nurse or a volunteer is actually conducting a "school at the mother's knee". As the child nears the age of entrance into the pre-school for retarded children, the home-visitor will increasingly instruct and demonstrate to the parents the activities which will best prepare their child for the pre-school experience. The home-visitor will attempt to supply as much of the usual background experiences and perceptual training as is possible. Together the parents will work with the home-visitor toward the child's participation in a structured, therapeutic, educational environment outside the home. The pre-school will then attempt, through group participation and individual tutoring, to prepare the child for the public school, in whatever class will best meet his unique needs. Your work will lay the foundation for all future learning.

Thus you may well start with a baby who needs help in learning to open his fist or the grasp. He may be at a three or four month level and this would be the time to give him little objects which help him to exercise and excite his first sensations for prehension (grasping) and the tactile sense. You may suggest to the parents that they purchase or make a cradle gym with gay colored rings, knobs, and a music box. The baby can then be encouraged to pull the rings. You may not get much beyond this level before the child enters the pre-school, depending, of course, upon a great many inherent factors; however you will have done much to stimulate the child's potential for learning.

There are specific stages of individual development during which certain capacities for behavior appear; if they do not appear at that time they may never do so. By working intensely with the parents and child at an early age, you are laying the foundation for perceptual development. Perception is the base for later use of symbols and abstractions. Remember that infants in cribs learn to solve problems too; they smile when they want to be picked up and they cry for feeding and attention. Your ultimate goal is always to be concerned with helping the child to manipulate objects himself as this will permit him to see the principles of cause and effect operate by his own actions. Early child activity is manipulative and sensory-motor oriented and is accompanied by highly unstable attention. If you can help the child to greater involvement with materials at a manipulative level you will also help him to reduce the degree of perceptual and motor supports, so that he can eventually recognize the symbol (e.g.: picture or word), without the supportive cues from the object. Thus the child will move from object to symbol and from motor action to speech.

Bruner, in his book, Process of Education, has indicated that early learning will make later school accomplishments more efficient. It is this message that you must convey to the parent through your regular work with the infant in the home; so that the parents will enthusiastically participate in the excitement of teaching their child at home, even when this child happens to be mentally retarded.

Mary Ann Newcomb  
Infant Specialist





## VISUAL PERCEPTION

### Birth:

1. Keep a dim light on all the time.
2. Move the crib around the room.
3. Change the baby around in his crib so that light excites each eye and side.

### 5 and 6 weeks old:

1. Moves head to light and bright objects that move; learns to move eyes without moving head.
2. Talk to him from different places in the room.
3. Learns to associate distance and directions both in sight and hearing.
4. Hang a mobile -- 6 to 8 feet away from crib -- level of the crib rails and in line with baby's eyes and gaze. Change sides every other day; this helps the baby to learn what movements are and how to focus.
5. Put the baby in other rooms of the house too.
6. Change and feed your baby from alternate sides.
7. Help your baby to move his hands before his face to enable him to see these movements.
8. Put rattle in one hand and then the other.
9. Play peek-a-boo; hold baby's hands before his eyes.

The baby first sees one hand, then the other. He discovers he has two sides to his body. Then he brings his two hands together and sees them in one look. This is the first way the baby sees himself, and he begins to put things together. Nearness to the baby means coming to the mouth; farther away occurs when he straightens his arm.

### 16 weeks:

1. Play patty-cake. At first move his hands together. Help him to know the many directions of movement which hands and eyes can take.
2. Give the baby plastic or wooden blocks he can hold.
3. When taking the bottle, place hands on the bottle, bring up to the mouth -- he will begin to learn nearness.
4. Give the baby several clean, smooth objects he can put to his mouth; this is a precursor to feeding self and also toe-eye-hand control and to eventual use of the spoon.
5. The child now reaches for another's face. Child starts reaching for many bright things and moving things. Help child to find his feet. This is the beginning of his practice in taking hold of things with his hands so to free eyes to move on to other things.

### 3 to 6 months:

1. Now please bring the mobile closer to the baby. He will hit it so it swings and bounces.
2. Say, "please" and "thank you" when you place a toy in the baby's hand and ask him to give it to you -- wave the toy in front of child to get him to reach and grasp for it. This game helps in learning to visually grasp and release objects and begins to develop his finger flexibilities and dexterities. He must have this kind of practice in order to develop eye-hand coordination.
3. Tie bells on the baby's booties or put them on the ankles with elastic which is not tight. This helps him to see his own feet by hearing them too. Help him to learn to kick the mobile to make it move. Feet, hands, and eyes all need to learn to work together.
4. As the child reaches for more and more with his eyes, hands, this process begins to tell the baby about sizes and distances.

### 6 or 7 months: (perhaps earlier)

1. Rolling and crawfishing movements bring entire muscular system into play. Provide large plastic or rubber balls for child and get the baby down on his stomach on the floor.
2. When baby attempts to reach, touch, and feel things give him more opportunities to explore and experience different textures and surfaces.
3. If floor is warm enough, place on floor with crib sheet and no clothes on at all. Diapers hinder leg and body movements.
4. Whenever possible have other children play in the same room with your baby. They will imitate others. He will use visual clues to go into movement when he sees others play. He will watch others (if not children then parents should be on the floor and move toward and away from baby -- crawling). Children move toward and away from baby; thus begins experience in visual size and visual distance.
5. Baby needs to throw rattle from high chair; this helps him to learn that there is a down, precursor to catch and throw a ball and ball throwing. One should allow the baby to throw down often, parent picks up and hands to baby and baby throws again.
6. Place objects on high chair -- baby pushes off and throws to the floor. Take a little time to play in this way with the baby each day. This is very important as it teaches the baby how to release objects from his hands.
7. Use all the words that go with this game .. "there it goes," "all gone," and "here it is."
8. You should be using simple words with the child; talk to him frequently about each experience. Be alert and use words that suit the activity of the movement. Assist him to associate speech sounds with what he sees and feels by imitating his own, expressive little noises. This will encourage him to repeat.
9. "No, no" at the proper time will help him to recognize which things are for pushing and tossing and helps him to establish the basis for sensible discipline and protective restrictions.



## 8 months onward:

The baby needs to move around a lot to see things from every side. He needs to look at and touch everything he can reach and he will try to reach almost everything he sees. Some things might even get broken, but this all helps him to feel what things SEE like -- and to SEE what things FEEL like. This is when he learns what texture is and later he will be able to look at something and know what it would feel like even when he keeps his hands in his pockets -- by just taking a good look.

1. Don't fence baby in. The feel of the object he sees verifies and expands his visual knowledge of the object.
2. Make and give to the baby yarn and string pompoms to feel and throw.
3. Arrange a pot and pan corner cupboard where baby can reach and open himself. Put tissue paper, cellophane and clean rags there in the cupboard with the pans.
4. Provide rich visual and auditory experiences and many opportunities for eye-hand coordination by allowing baby to play with the pots and pans in the cupboard. This will help him to learn about tops and bottoms; insides and outsides; smooth and rough; soft and hard; big and little; light and heavy; and many other usual aspects of the things his world contains.

## 1 year:

Your baby needs to crawl and wriggle, rock and creep. He needs to get stuck under a desk or coffee table. He needs to get into and out of tight places -- and he needs to discover how to do these things for himself. When he gets stuck, show him how to back up or turn around so he will know how the next time. Please just don't pull him out. Show him how he can solve this big problem.

Your baby needs experience on stairs and steps. Certainly he needs protection from severe falls, but little bumps help him learn how to avoid big bumps. Stairs help him learn how to avoid big bumps, because they will help him to develop depth perception. Stairs help him learn to see that up is different from down, and that steps are different from floors.

Your baby needs to creep before he walks, so do not be in a hurry to help him walk. All four creeping is a very important activity for the coordination and combination of his sides, his two arms, his two legs -- yes, and his two eyes also! All these pairs need to work together but his eyes must learn to team with each other more accurately than any other kind of "pair" he possesses. Studies show that this visual teaming is usually much more adequately developed in children who have practiced teaming of whole side through creeping. Spend time assisting the baby in creeping and crawling and all his bilateral (two-sided) abilities will develop more satisfactorily.

from: "Mommy and Daddy; you can help me learn to see", G.N. Getman and J.W. Streff.





## CLOTHING SKILLS

While teaching clothing skills, it is essential to enlist the cooperation of all those concerned with the care of the child. If the help of the parents can be enlisted in providing the type of clothing the child is learning to manage, it will increase his confidence and eagerness to be independent.

Loose fitting underclothes, elastic waistbands, outer clothing with large buttons or heavy-duty zippers in front are more easily managed by development center children. Practice with button boards and zipper boards is helpful but best is practice in front of mirror with special vests made with extra large buttons and buttonholes, others made with zippers.

It is most important to determine the functioning level of each child being trained, to attempt to teach specific skills, using appropriate rewards. If the child is resistant, reduce the difficulty of the task, so that the child can respond successfully.

On the video tape, two children were used to show dressing skills. These two children operate between two-and-a-half and three-year-old levels in most areas, but one child is a little more advanced in this area than the other child. The lessons are arranged in sequential order. We have attempted to show each step with Janine. Winnie has learned to take short cuts.

Lesson 1. Taking off untied shoes.

Lesson 2. Taking off socks from middle of foot.

Lesson 3. Taking off outer pants from knee level.

Lesson 4. Taking off T-shirt that is left on one arm.

Lesson 5. Pulls socks on from halfway point on foot.

Lesson 6. Pulls on outer pants from "one leg in" level.

Lesson 7. Pulls on outer shirt from "head in" and "one arm in" level.

Lesson 8. Puts on shoes that have been started over toes.

Sample Lesson Plan - Lesson No. I: Taking off T-shirt.

Lesson Objectives: Child will be able to remove T-shirt.

Instructional Materials: Loose fitting T-shirt, reward.

Procedures:

- Step 1. a. After putting loose T-shirt on child, remove to place where shirt is dangling on one arm.
- b. Give command, "Take your shirt off, Billy."
  - (1) if child shakes or pulls off shirt, reward!
  - (2) if makes attempt, assist and reward!
  - (3) if necessary, repeat command, place hand on child's hand and together remove shirt. Reward!
  - (4) repeat until child can obey verbal command.

- Step 2.            Shirt off child except for one shoulder and arm. Follow procedure outlined under Step 1-b.
- Step 3.            Shirt pulled over head but both arms in sleeves. Refer to Step 1-b.
- Step 4.            Shirt completely on. Refer to Step 1-b.
- Step 5.            When child has mastered Step 4, switch to a well fitting T-shirt.
- a. Give verbal command, assist as needed. Reward!
- b. Verbal command only, reward!

Criteria of Success: Child should be able to take off T-shirt by himself on verbal command.

Additional Note:        Body Image is extremely important to learning dressing skills. Working in front of a mirror to learn body parts, spatial orientation, front and back, left and right, are all prerequisite to learning to dress and undress one's self. Some children will imitate pointing out body parts but are not really understanding. They must be taught through all the same basic procedures to recognize their own parts and to point them out on other people. By the same reasoning, they must also be taught, step by step, in sequential order, to identify articles of clothing and the body part it is related to.

## FINGER FEEDING

First and foremost eating must be a pleasure experience. A child is ready to begin finger feeding when he is putting toys and his hands in his mouth. This is usually about the time the child has a mental age of 9 to 10 months. Foods to begin with are raisins, dry cereal, cookies, crackers, toast, lollipops or peppermint sticks. (The latter two to be used sparingly and with supervision for very young children.)

If the child is not putting things in his mouth, work on hand-mouth awareness. Use mirror play and guide his hand to his mouth to taste objects. Hand plays such as "patty cake" are good. Mobles are good stimulation for awareness and can be hung over the child's bed or play pen.

To begin, mother must make up her mind that learning to self feed is messy whether a child is retarded or not. If mother plans for this mess, she will not become so upset when there are accidents. Putting an old plastic tablecloth or newspaper under the highchair or table will help to a great extent. Start the feeding in the kitchen where the floor, furniture and wall can be easily cleaned. Also, prepare child and mother for the mess by having an apron or smock for mother. The child should have a bib of a size to keep clothing clean. These can be bought or made of plastic oilcloth or a large towel. Some people put terry cloth on the front of bibs so it will take up spills and place plastic on the back of the bib to keep the child's clothing from becoming wet.

If a child has a hard time and cannot manage to get a cracker, cookie or such to his mouth, use applesauce, peanut butter, jelly or frosting on his fingers and guide his hand to his mouth. This will give him a reward to start and make him want to try some more. We sometime call this pattern feeding. Stand behind the child to guide his hand. This will cut down on loss of interest and keep him from looking at other things instead of at his hands and the food you want to have him eat.

As we have noted in all areas of training for any child, watch which hand the child normally uses most and best. This is the hand you will want to teach him to eat with because he will be able to do a better job and learn easier with the one he uses naturally to do things. Never try to change the handedness of any child.





## FEEDING BY MOUTH: SWALLOWING AND SUCKING

### Swallowing Only:

#### A. Developmental Readiness:

The child can swallow his own saliva. Lip reflex may be present.

#### B. Process:

Liquid fed by spoon. Breck feeder.

### Sucking and Swallowing:

#### A. Developmental Readiness:

The child can suck his fingers or an object, even though weakly. He can swallow water or saliva without difficulty.

#### B. Process:

Prescribed formula with nursing bottle and nipple (or breast, if the mother still has milk). Nipple hole sizes adjusts formula flow to suit baby's sucking strength.

#### C. Positioning (for both Swallowing Only and Sucking and Swallowing):

Child is held in semi-reclining position, comfortably and with good support. Arm holding and cuddling is preferred for bottle feeding the baby. For an older child, or one who moves a great deal, or when parent needs use of both hands, try: Infant seat (light weight padded plastic chair, semi-reclining, available in most store infant departments); special chair, adjustable for good fit and support of the older child. Feet, knees and hips are best at right angles, even in semi-reclining position. Whole spine should be straight (from very low back through neck) with lightweight, easily cleaned padding for hips, back neck and head.

#### D. Social:

Cuddling, loving, talking to child. Playing, resting and other activities at non-feeding times. Changes of position, mobiles, and cradle gym in crib. Be sure he is dry, rested and warm for feeding. Fit feeding into the household routine to provide as much calm and acceptance as possible by other household members.

### Special Helps:

1. Infant seat or special chair, as described above.

2. Help in learning to swallow:

- a. In early stages, to develop swallowing skills, use water fed to back of mouth by spoon or medicine dropper. He may do better if you close his mouth for him. Gently stroke throat downward from below chin to chest, telling him "swallow".
- b. Stimulate to elicit sucking-swallowing reflex -- see #3 Special Helps in previous section.

- c. Place liquid on back of tongue in small amounts, using long-handled spoon with very small bowl. (That placed on front of tongue may just be pushed out) until sucking is developed. The child will probably drool as most normal children do at this stage of development. It helps to close his mouth for him (as it is nearly impossible to swallow with an open mouth), but be sure you do not interfere with his breathing. Use a large bib; wait with next spoonful until he swallows, or mouth seems empty, or he opens mouth for more. Strained foods are not fed to back of mouth, as we want to teach the mouth to be active and use normal patterns. The next step is good use of sucking.

3. When swallowing small amounts of liquids is easy, work to develop the sucking reflex and later strengthen it.

- a. Blanchard Method of feeding, described by Patricia Holser Buehler, O.T.R., is included in this A.I.D. packet. Especially designed for C.P. patients, the article describes reflexes and reasons and a method which can be useful for feeding any child learning to suck.
- b. Using plastic tubing as straw, gently close child's lips around straw, and let small amount of liquid flow down into child's mouth from above. (To control amount dip one end in liquid to desired level, then place your finger tightly over the top end so liquid stays in.) Practice this for lip closure and for first sucking. Following this, the infant will be put on the nursing bottle while the older child, beyond nursing age, continues to strengthen the sucking skills by continued use of the straw. Gradually (perhaps over days, weeks or longer) lower the level of the liquid so child must suck from source on level with his mouth, and eventually suck the liquid up from a bottle or cup on the table. Be sure to use a favorite liquid.
- c. When using a nursing bottle, flow may be made quicker and easier by enlarging the hole with fine heated needle, or new nipples may be softened by boiling them. Different types of nipples are commercially available with different shapes, hole sizes and sizes. All babies differ, so experiment to find out which type suits your baby and his present needs and size. Sometimes useful are Davol cleft palate nipple, Breck feeder, or medicine dropper. Be sure the flow is not too fast, causing child to choke. (When inverted it should drip, not squirt.)
- d. Good sucking pattern is a big step towards good speech patterns which are to evolve later. As strength and rhythm improve, replace large-holed, easy, fast nipples with smaller-holed, new ones so the baby has some resistance and learns to suck strongly.



## TEACHING THE CHILD TO CHEW

Many retarded children do not learn to chew as soon as the normal child develops this ability. Mental age partially determines readiness for chewing. Certain things can be done to help him learn to chew which we have indicated below. As with most skills this takes time and practice. With older children, it may be more difficult as he has developed other habits which must be changed as we introduce him to learning to chew.

Eating should be a pleasure. If we are to develop good habits, it will be a must that we plan meal time to be a pleasant experience.

First, the child should have his main teeth. The teeth grind the food and the tongue mixes the food with the saliva. Thus he must also be able to move the tongue.

Put a small piece of food between the molars and move the lower jaw up and down. Show him how you chew. Sometimes placing his head against you will give him the support he needs, and also it will help you to guide his jaw. As this motion is repeated, the child should be able to pick up on this and move the jaw on his own. Switch sides that you move so he does not become accustomed to chewing on just one side.

If the child tries to force the food out with his tongue, move the food back farther on his molars.

Give the child bite sizes of food to start. Toast, graham crackers, cookies and other foods that he can feel and hear are good ones to encourage him to try. The crunch in cereals and food like the above make it interesting to him, because he does hear the sound it makes when he chews. The new sugared cereals also taste good to him. The child needs a chance to bite off foods such as the above and pieces of apple or potato are also foods that may be used in this way.

Help the child to be aware of his mouth, tongue and teeth. Look in the mirror with him. Play games pointing out these parts of his mouth. Do exercises with mouth and tongue in front of the mirror. Yawn. Kiss. Blow. Move tongue up to touch upper lip, chin, cheeks. Chew while looking in the mirror so the child can watch what you do. Let child feel your jaw when you chew and then let him feel himself chew. Eat with him. Let him watch other family members chew.

Introduce lumpy foods gradually. It will be harder for the older child who has definite likes and dislikes. Sprinkle graham cracker on pudding and introduce lumpy foods in other ways.

Work on chewing when the child is hungriest, say at the beginning of the meal. To allow a child to continue on soft foods or strained baby foods until he is of school age slows up his development. A school age child needs to be on solid food if development warrants. Do not hurry meal time. Give the child lots of practice. Praise him generously for his efforts. If you feel this type of training is too frustrating to work on at meal time set aside another time to begin this work.

Check with your doctor and sometimes your dentist to make sure there is no physical basis for the child's lack of chewing. Dental problems can interfere with proper chewing.

No training can be accomplished overnight or in a week. It will take time for the child to learn to chew well. Don't measure progress by days but by weeks. You will be glad you took the time to help the child improve his eating ability when you see him tackle a meal with gusto and real enjoyment in a socially acceptable manner.





## DEVELOPMENT OF SUCKING AND SWALLOWING

Elizabeth Bosley, M.A.

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Wichita, Kansas

Anyone who has observed a baby in the fascinating process of cooing and babbling can readily see the very intimate relationship between these forms of speech and eating processes. As the baby rounds his lips and makes sucking movements in anticipation of his nursing period, the "goo's" and "oo's", the "mum's" and "b's" emerge merely as a result of accidental combination of voicing with these lip and tongue maneuvers. Or the baby chews and smacks as the cereal or zweiback comes into sight and squeals delightedly with a variety of sounds that closely resemble his mother's "ee's" and "uh's" and "n's". Combined with spitting and blowing these maneuvers turn into "f's" and "v's", "sh's", "s's", "z's" and many other sounds. At first these sounds lack definiteness; they are more obviously sucking, lipping, smacking, chewing, blowing, spitting than they are the stereotyped speech sounds. But gradually, as the delighted mother babbles them back to the child, they lose their obvious eating associations and become genuine and specific sounds.

The chewing, sucking and swallowing reflexes are the primitive reflexes upon which speech is based. These are reasonably intact in the cerebral palsied child or he probably could not live. But they may be much distorted by spasticity and athetosis; they may have stopped developing at a primitive level--the child in fact may do little more than swallow when liquids are introduced well back in the mouth.

Before speech sounds, requiring much more complex manipulations of the speech muscles, can be taught, development of the chewing, sucking and swallowing reflexes is necessary. Many a parent has unwittingly permitted a standstill in the development of these reflexes through continuing to feed the child only liquids and soft foods, placing them in the mouth in such a way that a minimum of mastication is necessary.

Sucking and swallowing are the first of the reflexes to develop. Normally, the infant has carried on sucking and swallowing movements as early as the fifth month prenatally, perhaps earlier. He is born, even if prematurely, with a strong sucking reflex. Sucking may be elicited for a short time after birth by almost any kind of stimulus--taste, temperature, touch, almost anywhere in the body. Within a few days the stimuli that will elicit sucking begin to be restricted to the immediate mouth zone--the lips, the cheeks, and inside of the mouth.

The cerebral palsied child is so often unable to suck at birth due to the brain injury which has damaged the areas of the brain controlling this reflex. He does not nurse and is fed with a medicine dropper or other devices. He may go through the entire sucking period without ever nursing or taking the bottle. Needless to say every effort should be made to stimulate sucking in the young baby.

How may this be done? Experiments of Pratt, Nelson, and Sun on a group of 96 babies for the first two weeks after birth showed that the stimuli most likely to produce sucking were, in order of effectiveness:

1. Tactile stimulus (touch first directly on the lips; secondly, above the lip; thirdly, below the lip, and lastly, on the cheek).

2. Temperature - - extreme cold and extreme warmth being most effective, but extreme cold being more effective than extreme warmth.

3. Tastes -- the substances tried being effective in the following order:

- |          |                |
|----------|----------------|
| 1. Sugar | 3. Quinine     |
| 2. Salt  | 4. Acetic Acid |

4. Odors -- the odors used being effective in the following order:

- |                |                  |
|----------------|------------------|
| 1. Ammonia     | 3. Waterian      |
| 2. Acetic Acid | 4. Oil of Cloves |

It would seem then that combining these stimuli one might have the best chance of success by presenting directly between the baby's lips a very cold substance sweet in taste and at the same time allowing the baby to smell one of the suggested odors. Moving the lips in a contrary direction may help. The mother should place her fingers around the baby's lips and stretch gently outward using a very light pull. This usually causes the lips to move in the opposite direction and thus pucker around the nipple. A baby who does not suck sufficiently well to nurse may still suck on such objects as a sugar tit or a cloth soaked in milk. In such cases only a faint sucking is needed to produce pleasurable results, and thus the baby is encouraged to try again. As this sucking builds in strength it may then be transferred to a bottle with a nipple in which the hole has been enlarged and eventually to the ordinary nipple or preferably to the breast.

It is generally recognized that breast feeding is better for the baby than bottle feeding, not only because of the more satisfactory milk formula and the emotional satisfaction given, but also because breast feeding allows for more normal development of the speech structures and better functioning of the speech muscles. If breast feeding is not possible, however, and the baby is bottle fed, best results may be obtained by seeing that the baby is held while nursing with the bottle straight in the mouth. Bottle holders allow the bottle to work into poor positions and exert pressures that distort the growth of the mouth. As has been pointed out by Dr. Palmer, the size of the nipple hole should ideally allow milk to drop at the rate of approximately 21 drops per minute when held upside down. A nipple hole that is too small can be enlarged with a hot needle. One that has too large of a hole should be discarded.

Where a speech defect is present in the cerebral palsied child, it is desirable that sucking should be continued throughout the period of speech development. The bottle should be abandoned at the normal time--usually between 9 and 18 months. Then sucking through a straw should be started. Since frequently the child finds this impossible, a period of careful training may be necessary. A plastic straw may first be used, or, the parent may get a length of rubber tubing. This tube should be  $\frac{3}{8}$  inch in diameter with a hole about the size of the ordinary straw hole. This means that the walls will be thick and not easily bitten shut. If they are, they will spring out readily when pressure is released.

If the child does not have the sucking idea, place the straw or tube in a favorite liquid. Put your finger over the hole, thus holding the liquid into the child's mouth. After a number of repetitions to associate the idea of the straw with obtaining a pleasant drink, lower the end of the straw a little below the horizontal so that the liquid will not actually run into the child's mouth but the faintest suction will draw it in. Encourage the child to try to suck by smacking and rounding your lips, making suction noises with your tongue, etc.



As soon as sucking has occurred, show great pleasure in the performance and repeat. From here on it is merely a matter of very gradual lowering of the end of the straw from day to day or week to week. This should not be hurried. When sucking with the straw held vertically has been mastered, proceed to paper straws. The end of the goal is the ability to suck rather thick liquids through a paper straw. As soon as sucking has been mastered, the child should drink everything through straws. Even soups, gravies, etc., may be taken in this way.

Needless to say this whole process must have pleasant associations if it is to be successful. The child should feel the parent's pleasure in his success. Times for work on sucking should be times when the child is relaxed and happy, probably not at the meal but between meals when mother and child can be alone and unhurried. Some children respond better to sucking from pop bottles, whatever, the liquid used. Of course, the liquid should be one well liked. Success must not be too difficult or the child will give up before he has learned. Make each step only a very little bit more difficult than the preceding step. Do not hesitate to go back a step if on any particular day the child seems unable to perform the new step. Everyone has "bad days."

The sucking idea can be built up through use of stick candy, sugar tits and the like, and sometimes it is better to begin here and then transfer to the straw.

Swallowing ordinarily builds up with efficiency in sucking. In the normal baby these processes are inseparable, the suck setting off the swallow. Gesell reports that in the very young baby the last mouthful of liquid often runs out of the mouth since the cessation of sucking brings cessation of swallowing. Often difficulty in swallowing is chiefly due to the inability of the spastic tongue to work the food or liquid to the back of the mouth where the end organs for swallowing are located. Slightly tilting the child's head back may passively assist in this but does not teach the tongue and will be of no particular training value, unless the tongue is encouraged to supplement a partial tilting which alone is not quite enough to move all the liquid or food back. It should be pointed out also that swallowing is very difficult with mouth open, and seeing that the child closes his mouth will aid him in this reflex.

Swallowing is sometimes slow and when sucking has become efficient, the child should try to take short sips and swallow immediately, also to keep sucking and swallowing, alternating continuously without having to stop sucking until swallowing catches up. Sometimes a gentle pressure upward under the chin will help stimulate the tongue to start the swallowing movement.

The parent often wonders when the endless and unpleasant drooling will stop. This drooling is due to sluggish swallowing reflexes or a failure to keep the mouth closed or both. When chewing, sucking swallowing reflexes become adequately developed, drooling will automatically cut down.

As soon as the parent realizes that he has a cerebral palsied child, he should begin working on the chewing, sucking, swallowing reflexes. So far as the mechanics of speech are concerned, this will aid more in the development of speech than anything else he can do.

Copied by:  
CCC Dept. of Educ., GP:mw





## SPOON SELF-FEEDING

### Developmental Readiness:

Child already eats finger foods, plays with spoon, wants dish on tray. He is ready about the time he can hand over and release objects, or build a tower with two blocks. He has been spoon fed and manages well.

### Process and Form of Food:

Holding a spoon in his preferred hand, the child learns to feed himself. The mother may sit to rear of child and guide his efforts in a natural manner, (as described in section on spoon feeding by adult) until he is ready to do it himself. Special equipment (see special helps) may be needed in initial stages; usual table ware should be used whenever possible.

### Positional:

A good highchair with tray and foot rest; or whatever else may be needed to keep child in an upright, comfortable, well-supported posture.

### Social:

Minimal initial servings; seconds when desired; liberal praise; no disapproval for unintentional mishaps. Calm, uncluttered, cheerful atmosphere. Child should, as at all stages, be rested, dry, warm and hungry! Begin by feeding alone with parental attention quickly available; later child may join family for part or all of the meal, though he will still be slow and need help.

### Special Helps:

1. Equipment. Large bib for mother and child, newspapers on floor, broad-based, heavy, non-breakable dishes, and short handled spoons with bowl to fit child's mouth are all standard equipment.

Special devices are used only when necessary, and after carefully thinking through the problem. Progress to normal utensils is made as soon as possible. See end of this section for notes on specialized equipment for the beginning self-feeder.

2. To begin, select food which adhere easily to spoon: oatmeal, cream puddings, mashed squash, potato, sweet potato, apple sauce, baked beans, creamed beef or chicken, etc. Thin soups, slippery peaches, rolling peas and the like are very difficult until control improves. Introduce these later in small amounts.
3. If the grasp, reach, and arm movements seem weak or uncoordinated, think of activities at non-feeding times to strengthen and improve coordination, e.g. passing and later tossing colorful beanbag; building with unit blocks; pushing and pulling push toys, wagon; and playing with all sorts of small and large toys; helping with toothbrushing; swinging and raising arms as part of "dancing" to music; sandbox play with spoon and pail, and pouring sand, rice, or water; etc.
4. Sometimes it is a good idea to feed child every other bite when beginning, especially if the child has some physical handicap or tires very easily. This method can also make mealtime very sociable, but will not work if child wants the grown-up to do it all. Of course, if the child wants to do it all by himself, so much the better.

5. Continue finger foods even as child is learning self-feeding. Especially good to begin end the meal, as they are probably by now fairly easy for him.
6. Overlook accidental spilling and messing as this is a normal part of development. Begin with short self-feeding periods. Fatigue, boredom, unusual messiness and negative attitudes are closely related, so take it slowly, with liberal praise and offer adult assistance in normal patterns of self-feeding. Of course, some children are fiercely independent, so help only when they accept assistance.
7. The way this child has been fed before matters. If he is accustomed to eating with his tilted back, or having food scraped off against upper teeth, he will need to learn new patterns. Normal lip, chewing and tongue movements are the goal. See previous section for special helps.

#### Special Equipment for Self-Feeding:

- A. Spoon variations can be important especially if there is a physical component to the problem, as in C.P.
  1. Basic shape of spoon, bowl size, and handle length and width can decide success or failure. Most young children prefer a short spoon, with generous rounded bowl and thick handle. A soft rubberized spoon from drugstore may be a good start. But experiment a little; every child is so very different.
  2. Padded or built-up handles may be used on spoons, forks, knives and cups for the child who has a weak or incomplete grasp. Sponge rubber may be taped, glued or sewn to handle.
  3. Other adaptations. Twisted handles, bent to curves fitting child's hand. Finger ring or hand ring welded or riveted to spoon. Swivel spoon occasionally helpful where child must make the switch in direction just before mouth. Spoon on handle (very temporary built-up unnatural position). Handle specially molded to fit child with cleft palate or small mouth.
- B. Plate adaptations and stabilizers.

Young children, retarded or not, often have trouble with food sliding off edge of plate with bowls and plates which scoot around table and even off it to the floor. This can be distressing, to put it mildly, and with some retarded and C.P. children, this phase of learning can seem interminable.

The underlying reasons for food sliding and dish scooting are very similar: The child has not yet mastered the art of sliding under food and lifting it, or of stabbing it with fork when appropriate.

To rectify, try consistently to teach child correct patterns. Work especially on the arm and hand movements, teaching child to fill spoon or slide under food more gently. Practice with him how to stab and lift foods when he is coordinated enough so a fork is safe. Children are also far more adept at sliding under foods than are spoons; and a blunt knife or piece of bread are good pushers if they are acceptable to the family.

Equipment to minimize food disarray while child learns: Deep bowl; plate guard, a narrow arc which fastens to normal plate; sectional plates, compartmentalized dinnerware, unbreakable; suction cups, rubber mat, clay or plasticene (from variety or art store) to stabilize dish to table; wooden board, with circular cutouts for cup and dishes, may be clamped to the table at mealtime.

Standard child's deep, divided feeding dish with suction cup on bottom and hot water compartment below combines three prime features with sturdiness and availability.

## STRAW DRINKING

Use a soft plastic straw or a length of rubber tubing about the size of a straw.

To begin, use something sweet that the child likes, such as gelatine that is still liquid.

1. Put the straw in the liquid - place your finger over the hole in the top and this will hold the liquid that has entered the straw.
2. Remove the straw from the liquid and tilt it into the child's mouth. Do this several times until he associates the straw with the idea of obtaining some of the liquid. Do not let him drink the liquid or obtain it in any other way.
3. Lower end of straw slightly so that the liquid won't run out until he sucks just a little. Sometimes demonstrating and making sucking noises will encourage him to suck. Encourage closing lips, not teeth, around straw. If he has trouble closing his jaws around the straw, stand behind him and hold his chin in your hand. Then gently restrain him from opening any wider than is necessary to insert straw. Use your fingers to help him round his lips if necessary.
4. Reinforce sucking movements by praising and rewarding him. Very gradually continue to lower end of straw until he can use it vertically. When this point is reached, you can probably transfer to paper straws.
5. Have him drink everything through straws for a while, gradually increasing the consistency of the liquids so that more vigorous sucking is necessary.

Be sure to make learning to drink from a straw fun. You will have better luck if you work between mealtimes and at a time when both you and your child are feeling happy and relaxed.



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## BREATH CONTROL GAMES

**Blowing -** Blow the seed from dandelions, blow out candles, blow whistles and other toy musical instruments, blow up balloons, blow the jackets from drinking straws, blow curled party favors, blow up paper bags and make them pop, blow pinwheels, blow soap bubbles.

Make small folded paper boats or use bottle caps with toothpicks for masts and paper for sails. Place in sink or pan of water and have child blow them about the sea. Some children will enjoy doing this in the bathtub during their bath with toy plastic boats. They can use a tube from waxed paper to blow into to try to make waves or storms to sink their boats.

**Hunting Games -** Draw or find animal pictures, mount pictures on light cardboard or construction paper, make a light cardboard base, line up animals and have child attempt to blow them over. Have him blow through a cardboard tube and pretend it is a blow gun.

## TONGUE EXERCISES

**Licking -** Ice cream cones, lollypops, a spoon with honey or other sweets on it.

Put sticky stuff on lower lip, corners of mouth, upper lip. Make sure it is something your child likes the taste of. Encourage child to lick it off.

Put sticky stuff behind the teeth, on the roof of the mouth, behind the gums. Encourage child to lick it off.

Encourage child to suck through a straw. Use soft plastic if paper ones are too easily crushed. Do not use glass straws.

Try to make these games fun. Don't work for more than 5 or 10 minutes at a time.

## CUP AND GLASS SELF-FEEDING

### Developmental Readiness:

Child should swallow, not suck, liquids. He can drink continuously four to five swallows or more. He can grasp cup with both hands.

### Procedure and Position:

1. Good posture, sitting upright, feet supported, body supported, as described in earlier sections. He should have a table (or, better, a high chair tray with edges) at a comfortable height in front of him.
2. Start training when child is thirsty, rested, and with some liquid he likes. Fill glass 1/4 full or less. Adult sits a little behind and to right or left, depending on handedness, and guides child's hand and arm in correct pattern to bring cup to mouth and tip slightly. Child may hold cup in hand alone, or adult may place his hand over child's, so they are both holding it. Emphasize to child the tilt of the cup and what happens to the liquid.

### Social:

Support, smiles, praise for child and encouraging parent to continue these efforts and try to overlook spills.

### Special Helps:

1. Cups may be more handy if they have one or more of the following features: lid and small hole or spout to regulate flow and prevent spills, long handles so that entire fist may be used for grasping. If grasp is weak, handles may be built up with foam rubber as with spoon handles in previous section. Double handles, one on each side, if arms are weak or coordination is poor and he might do better using two hands. Broad base is always good for the learner to minimize tipping. Weighted base reduces tipping and may help stabilize movements when coordination is poor or there are extraneous movements.
2. Plastic tubing, rubber tubing, or drinking straws if child is unable to lift cup. Cut to desired size, usually 8-9". Wash immediately if tubing is to be re-used. Paper or cellophane straws can be found which bend at the proper angle and are disposable. The plastic or rubber tubing will withstand the child's biting or chewing better than the others. Never use glass!
3. Tube or straw drinking is also recommended to reinforce lip closure, partial closure, use of tongue and other mouth movements necessary to development of speech.
4. If child is having difficulty with the actual mouth movements of drinking, it is often best to forget his cup handling and work on these (unless he has an overwhelming desire to do it himself, or would feel badly at having the adult take over again).
5. Some references suggest a semi-reclining position as being helpful, but many children choke on liquids in this position.





O=Fail  
 +=Pass  
 √= 1/2 way

NAME: \_\_\_\_\_  
 BIRTHDATE: \_\_\_\_\_

# RECEPTIVE LANGUAGE

DATE

Shows awareness of light, sound, object, person.									
Adjusts to gestures by "bye-bye," "peek-a-boo," "hello."									
Adjusts to words by "bye-bye," "peek-a-boo", etc.									
Follows directions by gestures-- look, come.									
Follows directions by words--look, come.									
Responds to inhibitory words--no, don't, stop.									
Can demonstrate with action-imitate, sit, stand, run, jump, eat, drink, fly, etc.									
Can demonstrate with action through word-use only, sit, stand, run, etc.									
Understands two prepositions-put "on," "in," "over", "under," "up", "down," etc.									
Responds to own name.									
Can follow single 3-step commands in sequence.									

COMMENTS:

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## SEAL BLUFF CENTER EVALUATION FORMS

O=Fail

+ = Pass

√ = 1/2 Way

NAME: \_\_\_\_\_

BIRTHDATE: \_\_\_\_\_

EXPRESSIVE LANGUAGE

DATE

Reacts to stimuli by crying, fussing, smiling, babbling.							
Imitates sounds, syllables, m, ma-ma.							
Repeats names of objects, fellow siblings.							
Identifies (label) members of family, household pets, familiar animals, objects.							
Identifies common animals, objects by sounds they make, what they do.							
Uses gestures for answers--shake head for "no," nod head for "yes."							
Identifies self by--I, me, own name.							
Refers to familiar people by name.							
Does motions suggested in songs, rhymes.							
Shows enjoyment, by humming along in a song, clapping hands after a song.							
Expresses self (decision) says "yes," "no".							
Exchanges simple courtesies--hi, hello, good morning, goodbye.							
Expresses simple needs, wants - bathroom, potty, drink.							
Classifies self - boy, girl.							
Uses --- I, Me, You.							
Qualifies nouns--big dog, little cat.							
Practices simple courtesies to presented situations - thank you, please, excuse me.							
Correlates for answers--What do you do with bread? "eat".							
Understands, says, tells--hot, cold, open, close.							
Talks in 2-3 word phrases.							
Talks in simple sentences.							
Laughs appropriately.							
Comments:							

O=Fails  
 +=Pass  
 √= 1/2 way

NAME: \_\_\_\_\_

BIRTHDATE: \_\_\_\_\_

SOCIAL OBJECTIVES AND EMOTIONAL

DATE						
Clings to object for security.						
Plays in isolation.						
Aware of other children.						
Parallel play.						
Occasionally interacts with other children.						
Interacts with adults consistently.						
Participates in imitative play.						
Recognizes self in mirror.						
Recognizes self in photograph.						
Sees self as separate from objects and people.						
Uses skills to help other children.						
Attempts to control frustrations.						
Attempts to share beloved adults.						
Takes turns.						
Increasing need to be independent.						
Can work in group situation.						
Participates in role playing, e.g., dramatic play, teacher, playhouse.						

COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

O= Fails  
+ = Pass  
✓ = 1/2 way

NAME: \_\_\_\_\_

BIRTHDATE: \_\_\_\_\_

EMOTIONAL OBJECTIVES

DATE

Trust and confidence.						
Self Identity						
Coping with frustration in acceptable manner						
Accepting substitutes						
Learning to unlearn old patterns						
Graded independence						
Sequential organization						

COMMENT:

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O=Fail  
 +=Pass  
 √= 1/2 Way

NAME: \_\_\_\_\_

BIRTHDATE: \_\_\_\_\_

COGNITIVE AREAS

DATE \_\_\_\_\_

ATTENTION SPAN:

Focuses or attends to specific object or activity in specified time.

TASK ORIENTATION:

Sees the relationship of objects. Can manipulate successfully.

ORGANIZATIONAL LEVEL:

Completes simple tasks in sequence.

VISUAL PERCEPTION:

Matching objects, pictures, colors.

Recognizes familiar faces, animals, himself.

Distinguish parts of body.

AUDITORY:

Follows the pattern of a beat.

Understands and responds to words, simple commands.

Distinguishes between sounds.

NUMBERS CONCEPT:

Counts 3 objects.

Counts in sequence.

Knows sizes - big, little, small, large.

TIME CONCEPT:

Lunch, Nap, leaving, toileting-time.

CURIOSITY:

Wanders, Explores.

Develops an interest in learning for himself.

Likes to make something happen.

O=Fail  
 +=Pass  
 √= 1/2 way

COGNITIVE AREAS  
 PAGE 2

NAME: \_\_\_\_\_

BIRTHDATE: \_\_\_\_\_  
 DATE

CREATIVITY:

Participates in dramatic play.  
 Transfers experiences in other situations.  
 Uses toys in a variety of ways.

RESPONSE RATE:

Reacts to visual stimuli appropriately.  
 Reacts to auditory stimuli appropriately.  
 Reacts to tactile stimuli appropriately.  
 Reacts to kinesthetic stimuli appropriately.

SPATIAL CONCEPTS:

Aware of up, down, backward, forward, beside (when sitting).  
 Knows when he is sitting, standing, walking by following command.  
 Is able to overcome obstacles in path.  
 Sees relationship between simple objects.

OLFACTORY:

Can discriminate odors.  
 Shows preference for certain odors.

TACTILE:

Aware of materials, objects through touch.  
 Can distinguish rough, soft, hard, hot, cold, smooth.  
 Has preferences for certain textures.

COMMENTS:

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NAME: \_\_\_\_\_

BIRTHDATE: \_\_\_\_\_

DATE						
COGNITIVE ROAD MAPPING:						
Able to stay within pathway on floor.						
Able to follow foot prints on floor using alternating steps.						
Knows where bathroom and various activity centers are.						
Knows where doors are and their use.						
Goes to and from bus independently.						
Can travel around familiar area alone and return.						

COMMENTS:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



O- FAIL  
+- PASS  
√- 1/2 WAY

NAME: \_\_\_\_\_

BIRTHDATE: \_\_\_\_\_

SELF-CARE FEEDING

DATE

Sits at the table						
Swallows food						
Finger feeds						
Holds Spoon						
Scoops food with spoon						
Drinks from cup						
Eats semi-solid food						
Eats with spoon						
Chews solid foods						
Eats with fork						
Eats and drinks without spilling						
Table manners are acceptable to society						

COMMENTS:

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O-FAIL  
 +- Pass  
 ✓- 1/2 WAY

NAME: \_\_\_\_\_

BIRTHDATE: \_\_\_\_\_

DATE						
SELF-CARE - PERSONAL HYGIENE						
Indicates when wet						
Pulls pants down with help						
Pulls pants down independently						
Pulls pants up						
Sits on toilet with supervision						
Sits on toilet independently						
Uses toilet paper appropriately						
Flushes toilet appropriately						
Washes and dries hands with supervision						
Washes and dries hands independently						
Combs and brushes hair with supervision						
Combs and brushes hair independently						
Brush teeth with help						
Brush teeth independently						
Squeeze toothpaste on brush						
Washes and dries face independently						
Blows nose upon request						
Blows nose independently						
Goes to toilet independently						

COMMENTS \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





O- FAIL  
 +- Pass  
 ✓- 1/2 WAY

GROSS MOTOR  
 BALANCE - LOCOMOTION

DATE

Rolls partly to side						
Lifts head from prone						
Supports self on forearm						
Rolls from prone to supine						
Lifts head from supine with pull on arms						
Supports self on extended arms						
Rolls from supine to prone						
Sits unsteadily when placed						
Gets self to sitting position						
Assumes creeping position						
Creeps reciprocally						
Pulls self to standing position						
Assumes and maintains standing balance						
Walks assisted						
Pushes (push) toys						
Walks independently - forward, Backward						
Pull wagon						
Walks, Squats in play						
Walks upstairs, downstairs holding on to bannister 2 steps per tread						
Walks upstairs, downstairs independently alternating feet						
Jumps in place						
Kicks ball from standing position						
Stands on one foot per one second						
Hops on one foot assisted						

NAME: \_\_\_\_\_

BIRTHDATE: \_\_\_\_\_

DATE

DATE						
Catches large ball from 2-foot distance arms stiff .						
Catches large ball - arms flexed at elbows.						
elbows rides a tricycle without assistance.						
Runs a short distance.						

COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

O-FAIL  
 +-PASS  
 ✓-1/2 WAY

NAME: \_\_\_\_\_

BIRTHDATE: \_\_\_\_\_

FINE MOTOR - EYE-HAND

DATE						
Eyes follow to mid-line.						
Maintains grasp on rattle, finger, etc.						
Eyes follow 180 degree.						
Begins to extend fingers.						
Builds tower of 2 cubes.						
Palmer grasp.						
Purposeful reaching.						
Finger feeds.						
Holds bottle.						
Transfers objects from hand to hand.						
Voluntary release.						
Opposed thumb and first 2 fingers in grasping.						
Builds tower of 3-4 cubes.						
Places round block in round hole.						
Holds crayon and scribbles.						
Builds tower of 5-6 cubes.						
Drinks from glass or cup.						
Throws ball.						
Eats with spoon.						
Strings beads.						
Builds tower of 7-8 cubes.						
Manipulates 1-1/2" buttons on button board.						



NAME: \_\_\_\_\_

BIRTHDATE: \_\_\_\_\_

DATE						
Copies a circle.						
Builds a tower of 9-10 cubes.						

COMMENTS:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

0 = Fail  
 + = Pass  
 ✓ = 1/2 way

NAME: \_\_\_\_\_

BIRTHDATE: \_\_\_\_\_

LOCATING AND NAMING BODY PARTS

	DATE					
HAIR:						
Locates on self.						
Locates on others.						
EYE:						
Locates on self.						
Locates on others.						
NOSE:						
Locates on self.						
Locates on others.						
EAR:						
Locates on self.						
Locates on others.						
MOUTH:						
Locates on self.						
Locates on others.						
CHIN:						
Locates on self.						
Locates on others.						
NECK:						
Locates on self.						
Locates on others.						
COMMENTS:						

0 = Fail  
 + = Pass  
 ✓ = 1/2 way

NAME: \_\_\_\_\_

LOCATING AND NAMING BODY PARTS  
 Page Two

BIRTHDATE: \_\_\_\_\_

DATE

CHEST:					
Locates on self.					
Locates on others.					
ARM:					
Locates on self.					
Locates on others.					
HAND:					
Locates on self.					
Locates on others.					
FINGER:					
Locates on self.					
Locates on others.					
STOMACH:					
Locates on self.					
Locates on others.					
LEG:					
Locates on self.					
Locates on others.					
FOOT:					
Locates on self.					
Locates on others.					
TOE:					
Locates on self.					
Locates on others.					
COMMENTS:					

0 = Fail  
 + = Pass  
 ✓ = 1/2 way

NAME: \_\_\_\_\_

LOCATING AND NAMING BODY PARTS  
 Page Three

BIRTHDATE: \_\_\_\_\_

DATE

EYEBROWS:

Locates on self.

Locates on others.

LIPS:

Locates on self.

Locates on others.

ELBOWS:

Locates on self.

Locates on others.

FINGERNAILS:

Locates on self.

Locates on others.

KNEES:

Locates on self.

Locates on others.

TOENAILS:

Locates on self.

Locates on others.

COMMENTS:





# I. HEAD CONTROL

## 1. Prone

lifts head

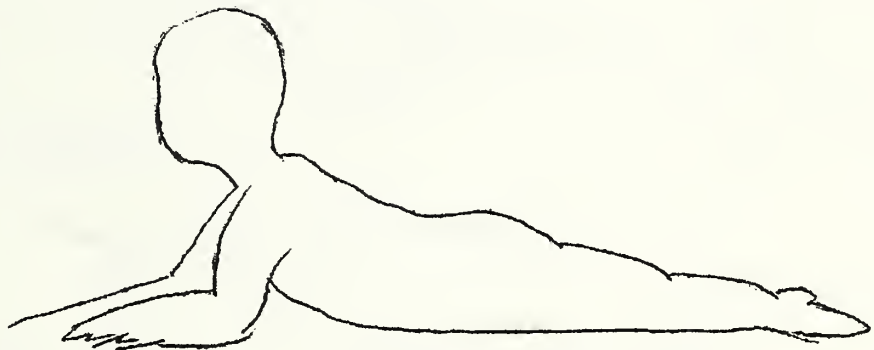
(begins 1 month)



## 2. Head and shoulders develop

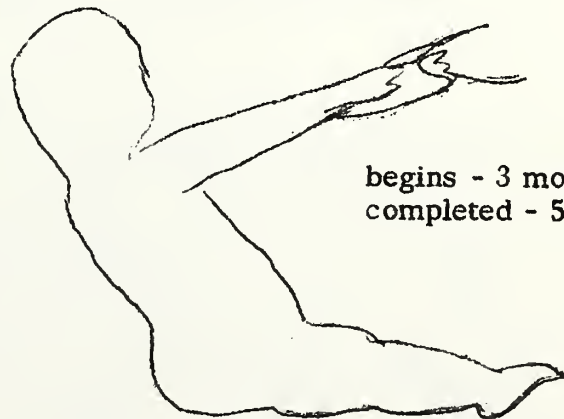
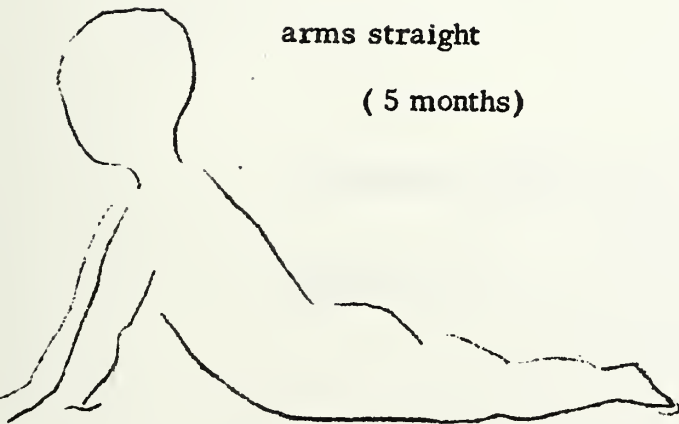
on elbows

(3 months)



arms straight

( 5 months)



begins - 3 months  
completed - 5 months

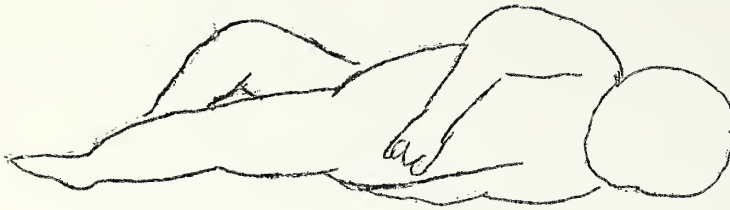
## 3. Head held steady while being pulled to sitting position.

## II. LOCOMOTION

### 1. ROLLING

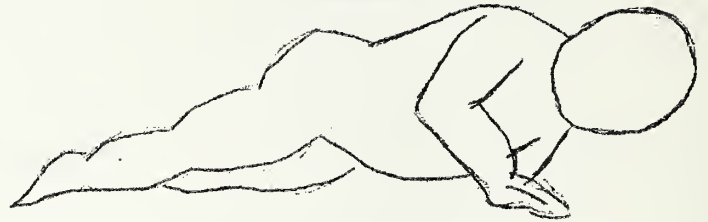
. . back to stomach

(5 and 6 months)



. . stomach to back

(5 and 6 months)

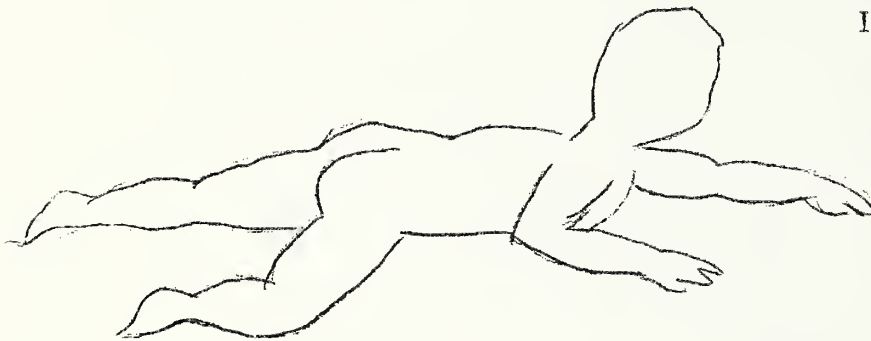


### II. CREEPING

Stomach on ground

(7 months)

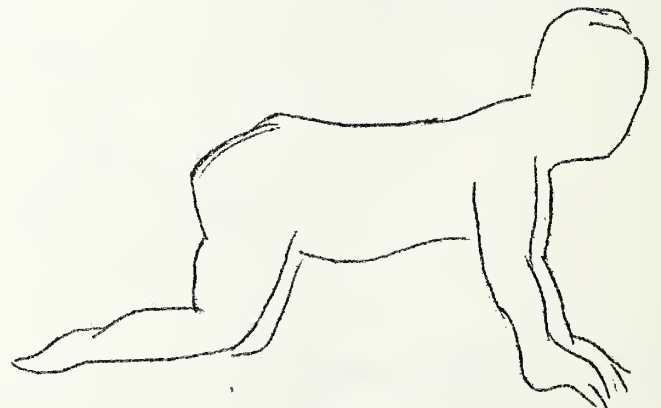
Using reciprocal pattern



3. on all fours

(Lower trunk development)

. . rocks back and forth



4. Creeps reciprocally

(10 months)



### III. SITTING BALANCE

#### 1. EQUILIBRIUM REACTIONS



Balance ( 6 months)

. . . push of center

#### 2. BEGINNING SITTING

. . . upper trunk development



( 7 months)

leans forward on hands





## SENSORI - MOTOR - STIMULATION

Beyond the five senses (tasting, touching, smelling, hearing and seeing) there is another sense which tells us where we are in space. This "muscle sense" tells us whether one arm is bent or straight. It tells us whether we are sitting or standing, whether we are pushing or pulling. Sensori-motor stimulation is concerned with developing this "muscle-sense" (proprioception) by means of exercises.

Motor skills develop as the child's nervous system and body matures. When a baby is retarded, the child may be slow or very latent in accomplishing such things as crawling, walking, etc. Through exercises, individual therapy and group therapy, the child can learn the basic motor skills and it is thought that the process can be speeded up.

The first thing one must do before beginning sensori-motor programs is to evaluate where the child is on the developmental scale. If the child is not crawling, then your efforts are directed towards all exercises which will encourage creeping and crawling.

The normal developmental sequence is as follows:

1. Pivot-Prone (Lifting and turning of the head from side to side, on back or tummy)
2. Rolling over
  - a. first from tummy to back
  - b. second from back to tummy
3. Creeping (any form of forward or backward locomotion with tummy on the ground.)
4. Crawling (on all fours or cat position)
5. Sitting
6. Kneeling
7. Standing
  - a. pulling up and holding on
  - b. standing and giving resistance at shoulders, hips, to strengthen muscles and improve balance
8. Walking
  - a. side ways
  - b. forward

These are the basic skills. Once these are accomplished, the child progresses to stairs, hopping, jumping, etc. The ultimate goal in sensori-motor stimulation is to have the child be able to follow a verbal command to perform a particular exercise and to be able to do it independently. Also to follow a sequential pattern of movements the latter is best done in small groups and represents the most advanced stage.

As we take you through various activities, it is well to keep in mind that the child's body is the focal point of all special orientation and exploration. We must start then with the child himself, helping him to be aware of himself as a entity, separate and apart from objects (including mother). This process involves building an ego in the child (and it can only be done through a genuine caring for the child) as well as helping him to learn the parts of his body, his name, and enjoying seeing himself in a mirror. This session will include activities and materials used to bring about the identity of self.



## SUGGESTED ACTIVITIES TO DEVELOP AND INTEGRATE MOTOR SYSTEMS

Pivot-Prone Position: Exploratory tasks and maintaining position (goal). Use position as much as possible for listening, watching activities. Set up: variety of materials to explore while pushing hands, object over. Use corrugated paper, sand, glass, ice. Slap hands on floor to music. Catch beam of light on floor. Grab bubbles in water. Follow target with one hand, then another. Turn hand to visual or auditory cue. Raise and lower head and chest from floor to cue.

Rolling: Position child with head on rolling path. Work on eye level with child passively move head of child, clap hands or snap fingers in front of child to stimulate roll. Roll to target in one direction, lengthen. Roll over variety of materials, mattress, carpet, sponge pad. Roll on incline and decline. Roll with weights attached to ankles or wrists or both. Roll in a barrel lined with sponge. Involve another child by pushing barrel. Roll to a verbal or music cue to change pace of roll, or direction of roll. Set up simple pattern to follow while rolling, pattern to include diagonal line. Roll over a series of materials, pattern to include diagonal line, for example, roll from a mattress to carpet to a small sponge. Roll while holding a scarf in hands.

Crawling-Creeping: Rock on hands and knees. Position to crawl in circular pattern, child moves body, keeping feet more or less as pivot. Crawl backward, push with both hands for forward movement, one side moving together progress to sides moving alternately. Useful motivation: child to crawl or creep to target, teacher take ankles and pull back to place this "ride game" is usually successful. Attach bells or weights to ankles and wrists. Crawl or creep over a variety of materials, sand, grass, floor, carpet, black-top, etc. Follow simple pattern. Clearly define pathway. Change of direction and pace on cue. Transport saddle bags over neck or back filled with weight. Equal and unequal loads. Deposit load in clearly defined area.

Sitting and Kneeling: Rocking: On hand and knees-forward-back; side to side. Rocking on rocking horse, tumble tub, rocking chair. Rocking from side to side, sitting position. Rocking on balance boards. Children inter-lock with one another to rock. Rock together holding to pole. Row your boat-row to the music. "T" stools: children throw bean bag to one another seated on stool. Begin with very short distance from one another. Pulled rapidly on scooter board, back and forth.

Rowing Games: Pulling with adult, use pole, ropes, sponge dough-nuts.

Exchange Games: Hand objects to teacher and back. Passing objects from one hand to the other.

Standing and Walking: Pull child up from sitting position to standing position by having child hold on to her bar or rope. Say "up", "down"

Resistance balance-push against child

Rocking from foot to foot.

Throwing ball from standing position.

Standing and bouncing on mattress.

Standing and rocking on rocking board.

Hopping on mattress.



Child walks sideways, holding on to a bar, or rope.  
Child walks around table, pushing toy on top of table.  
Child walks forward by holding onto and pushing a chair or a stroller or large push toy.  
Child walks on mattress, gets off, gets on again.  
Resistive walking.  
Child walks on mats in a pattern.  
Child walks to rhythm. Start and stop on auditory cue.  
Child walks forward, backward, change directions and the pace and continue to keep time to the rhythm.  
Child walks with a weight to target.  
Child pushes a sand bag with one foot and then the other.  
Child climbs stairs- up and down.  
Child steps over obstacles.  
Child jumps and hops.  
Child balances on one leg, and then the other.  
Child skips.

For additional activities in sensori-motor stimulation please refer to the work done by Ayers, Rood, Gould, Kephart, and Frostig.

## TOILET TRAINING BY CHARTING

To start your program of toilet training, one person should be chosen to do all the training at first, and it should be done with love, understanding, lots of patience, and the training must be very consistent. This patience and understanding must be toward the children by all the staff and also toward the person doing the training, for she has a very trying task ahead of her.

The purposes for charting the children are:

1. To find out the rhythm of each child's toilet habits by noting on the chart the time each child is toileted, e.g., Timmy: 8:30 a.m. - 9:15 a.m., etcetera. After you have learned this, you will know how often to put the child on the pottie or toilet in order to keep him dry. This time will vary with each child from thirty minutes to three hours.
2. By continuing to chart the children after you find out the child's rhythm, you can tell at a glance if you have missed toileting a child and you don't have to rely on memory. After a month or so, you will find you don't spend nearly as much time in the bathroom as you did at first, and the children are beginning to enjoy being dry. A note here to say that the child that urinates very often can be trained to go longer periods of time by putting him on the pot five minutes later than his regular rhythm for a time until he is dry regularly, then add another five minutes. This is how his bladder is stretched so he can hold more water.
3. Should a substitute come in, they can tell quickly by looking over previous charts the rhythm of the child's toilet habits, and can easily carry out the day's routine.
4. The rest of the staff can also begin to step in and help and will not have to ask, "Has Johnny been to the toilet lately?" They will only have to look at the chart.

I scotch tape charts to the wall in the bathroom. Each day a new chart is taped over the previous day's until a full month is posted.

As soon as you can ascertain the child's rhythm, it is wise to put training pants on and eliminate plastic pants. I recommend dresses for girls and pants with elastic in waist for boys so you can begin to train the children to pull their own pants down and up.

Be sure to praise the child - hug and kiss each time he has success. Make a big issue of it.

Find out what pottie chair is best for each child and use the same one each time for that child. Several children can use the same chair. Print the child's name on masking tape and put on the back of the chairs. For those children who are able to use the standard toilet, put their names on tape onto the edge of the toilet lid of the water tank.

Letter coding:

Each time the child is toileted the time is marked down along with a code letter. For example: If the child is already wet "AW" is used. If still dry, but urinated in pottie, just the letter "W" for Wet is used. Should the child sit for a period of time, say, ten minutes, and doesn't do anything, then his pants are pulled up and the letter "N" for nothing is put in the box with time marked down. If a bowel movement, then "BM". If the bowel movement was in his pants, the "SP" for soiled pants.

At the close of each day you can count the number of soiled pants for each child and put the number at the end of each column. You can also total up the soiled pants for each child for a month at a time and put the final totals at the end of each column on the last-day-of-the-month's chart. Next month you can do the same and then you are able to make a comparison to see what progress has been made.

The first month will be VERY HECTIC, and group sessions may have to be interrupted to pull out certain children that have to be toileted more frequently than others. All staff help by watching children for any signs indicating the child needs toileting and notify the person doing the training.

Finally, to be really successful with the program, the parents should be involved so that the program will be carried out around the clock.

by Lela Humphries, Toileting Specialist

TOILETING SCHEDULE

W=Wet  
AW= Already Wet

BM=Bowel Movement  
SP= Soiled Pants

# N=Nothing

[illegible]

\*Be sure to put the times in each box.





## TEACHING THE RETARDED CHILD IS A FAMILY AFFAIR

In this success story Stevie, who lay inactive in his crib at 19 months, was taught to feed himself and learned the skills that precede walking. The nurse author shows how each task was broken into its component parts and how she taught Stevie by teaching his parents.

KATHRYN BARNARD

Parents of normal children often ponder whether, in this complex society, they will be adequate in child rearing. But they have many role models to imitate and can derive support from many sources. The parents of a handicapped child remain more or less isolated in meeting the problems they face because of the child's deviant rate of development, lack of responsiveness, or excessive undesirable behavior. Also, the mass media do not tell them what to do when Johnny does such and such. Nor can they imitate the model of their parents. Once they have accepted their child's handicap, parents of mentally retarded children must battle to develop a sense of adequacy.

One of the professional challenges in working with retarded children is to help such parents. When a child is not developing at a normal rate, the parents must learn how to assess his abilities and then plan for promoting optimal development. In the normally developing child, maturation and growth appear to unfold synchronistically with one another. People really think little about the "learning" of such behaviors as holding one's head up or walking. Parents are delighted when they occur and communicate this to the child, but the child is the one who initiates the response-feedback mechanism. Thus, the paucity of response in the retarded child's development is important. No active behavior results in no feedback, and hence in the cycle of inactivity and lack of development each adds to the other. The questions

that become apparent are: How do you elicit behaviors to respond to? What behaviors should you respond to? What behaviors should you develop?

These questions represent issues that need to be considered in helping parents know how to be effective in rearing their handicapped child. Retarded children need a modified child-rearing approach, if maturation and development are to proceed optimally. Treating them as other children are treated is not the answer. The retarded are not as sensitive to their environment, but, at the same time, they are more dependent on it. They explore less and do not learn as much as other children do, spontaneously through imitation. The young child using his play telephone is a good example of learning through imitation.

The coordination of abilities, such as eye movements with hand movements to catch a ball, causes difficulty for children who are retarded. Therefore, breaking a task into its component parts is essential. The breakdown is difficult, because much of this learning is the kind that is not consciously taught. When a child does not attempt to sit up, we need to analyze the task of sitting up to determine the sequence of behaviors.

In addition, general principles of growth should be considered. An important one is that maturation proceeds in a cephalocaudal direction and from the central axis of the body to the periphery. This implies that head control is the first element in the sequence of attaining a sitting



position. If a child does not have head control, a program should be established to promote it.

Again, in walking behavior, the first step is not to get the child on his feet and moving around, but, to start where the child is. Has he developed a sitting posture? Does he have equilibrium responses while in the sitting position? How does he hold his head when standing?

Another developmental principle can be applied, that is, the child masters the position of an activity before he masters the activity itself. Thus, a child should be able to stand without support before adults encourage foot movements. Obviously, when a child has impaired motor capacities, other than a delay in rate, adaptations and prosthetic equipment may be required. The development principles, however, are still valid.

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Miss Barnard (B.S., University of Nebraska; M.S., Boston University) has a Certificate of Advanced Graduate Standing for Boston University. She is assistant professor of maternal and child nursing and coordinator of the Training Project of Nursing in Mental Retardation at the University of Washington, Seattle. The training project consists of short-term workshops for nurses who practice in public health or institutions, integration of mental retardation nursing content into the generic baccalaureate and master's programs and a post-master's year of specialization at the University of Washington.

She is also coordinator of nursing in the University's Mental Retardation and Child Development Center, an interdisciplinary center for training and research. She is nursing chairman of Region I of the American Association on Mental Deficiency and is a member of the American Nurses' Assoc.'s Ad Hoc Committee on Allied Nursing Personnel for Psychiatric Nursing.

Others who worked closely with Miss Barnard to help the patient described here and his family were Wanja Holm, the pediatrician; and Jo Ann McMillan and Durrell Bennett, physical therapists.

## THE OPERANT THEORY

The operant theory of learning or, as some term it, reinforcement theory, provides an important frame-work when considering how to teach the child certain behaviors (1). As was mentioned, the retarded child is more dependent on the environment and learning will proceed more rapidly if the environment is structured to enhance it.

Behavior that is positively reinforced is more likely to reoccur. Conversely, when behavior is negatively reinforced, the probability that it will happen again decreases. This has been well established in studies with both animal and human subjects. Simply stated, the behavior that is reinforced is the behavior that is learned. The response immediately after the behavior reinforces, not a response that comes a few minutes or days later.

With the retarded child, a systematic means of reinforcement becomes a means to communicate what you expect from him. If he has a bowel movement in the toilet and he receives praise or some other form of reinforcement, he will soon learn that one performs in that way to receive mothers praise. Think about the young child who comes running into the house and tugs at his mother's dress or asks verbally for some attention. Mother is too busy and each time responds by saying, "Billy, just a few minutes and I will be done in the kitchen." After an hour Billy has been unsuccessful. The next time he comes into the house he lays down, kicks, and screams. What happens? Mother rushes over and says, "Billy what's the matter?" Mother has positively reinforced Billy's tantrum and, if the circumstances were repeated several times, Billy would probably "learn" to kick and scream if he wanted attention.

In building behaviors with the principles of reinforcement, one commonly uses techniques of either shaping or fading. In shaping, one starts with a small element of the behavior, perhaps rewarding even attending to the task, and then gradually demands more complex behavior.



In fading, one starts with the terminal behavior, with the therapist helping the child go through the behavior and then gradually fading out the adult's assistance as the child becomes more capable. The case discussion that follows demonstrates both shaping and fading techniques.

### THE PARENTS

In addition to considering the child's response and his difficulties in adaptation, one must consider the parents' emotional response and its effect on their ability to work with the child. To learn that one's child is not normal is a blow to the parents' self-concept. This accounts for the initial defense mechanism of denial. The parents avoid recognizing the features about their child that signify his retardation. Denial is a necessary defense.

Parents at this point need to be helped to become aware of the child's handicap. They do not need to be told. In fact, if they are told, the probability that the process of denial will magnify is high. At this stage, parents are immobilized with respect to doing anything about the child or working to increase his abilities. Only after the parents have accepted the fact of retardation and have come to some answers for their questions will they be able to participate with the nurse in planning to structure the environment so that the child develops some behaviors which are appropriate and which will increase his independent functioning. The questions that usually trouble parents relate to: Why did it happen to them? What can be done? Will they be adequate to cope with the problem? How will it affect their families?

Families with a retarded child must organize themselves in such a way that they can meet the needs of not only the handicapped child but also the other family members. In the case report that follows, the family most closely fit into the home-oriented strategy described by Farber (2). In such a home-oriented family, the main goal is the continuity of the home. Children are valued.

Emphasis is on their mental health and happiness rather than on achievement. The parents tend not to participate actively in community activities; the father is the social-emotional leader in the home; and the mother depends on him for emotional support. The father does become involved in the child rearing. In other words, the family maintains its goal chiefly by turning effort in toward the family unit, and members work closely with less use of community resources than families who use other types of strategies. Recognition of the type of family organization provides important clues for the nurse.

### STEVIE

Stevie, when first seen at the University of Washington Clinic for Child Study, was 18 months of age. He had the behaviors of a six-month-old infant; and his motor responses were even more delayed. At the time of evaluation, Stevie had minimal head control and could not maintain a sitting posture. The parents were eager to do whatever they could to help Steve. Until this time he had been content to stay in his crib or be held. He had little interest in his environment, but enjoyed exploring his mother's face with his hands. He babbled considerable, and the mother responded readily. In fact, on developmental testing, his highest area (32 weeks) was in language development.

Following the interdisciplinary evaluation in which Stevie and his parents were seen by the pediatrician, nurse, psychologist, social worker, nutritionist, dentist, and neurologist, it was determined in team conference that Stevie was functioning on a retarded level. His medical history gave no clear indication of the cause. He was a hypotonic child, who displayed minimal interest in the environment.

After the evaluation, the first step was to interpret to the parents the lack of conclusions about Stevie's problems and the necessity of observing him in the



next several years as he grew. In addition, the family needed help to know how to respond to Steve. Was there any alternative to having him in bed most of the time? When would he sit up? At this time, the parents accepted the fact that Stevie was handicapped; whether they accepted that he was mentally retarded was a moot question.

The pediatrician began seeing the family to help them work to develop head control. She encouraged positioning Stevie in the corner of the couch or small stroller with firm trunk support. After two months of positioning, Stevie had improved head control in the sitting position. The mother became interested in the question, "Could Stevie learn to feed himself?"

At this point, the nurse on the team became involved in the follow-up program. Stevie had the motor behaviors required for self-feeding. These were hand-to-mouth coordination and sitting position. When attempts were made to get him interested in finger foods, he refused to feel textures. This was consistent with his response to toys. The only two he liked were smooth plastic ones. Because of this and the fact that being able to feed oneself with a spoon would be eventually a more socially acceptable skill, we decided to concentrate on teaching spoon feeding to Stevie.

## DEVELOPING SPOON FEEDING

### SKILLS

The nurse's job was to teach the parents how to teach Stevie. Making observations of his feeding behavior was the starting point, since building on the behaviors already there is essential. After making general observations during one feeding session, the following categories were set up and information was recorded systematically during nine baseline sessions of observation:

#### Appropriate behaviors

- Looks at spoon
- Reaches toward spoon
- Touches spoon

- Grasps spoon
- Holds spoon correctly
- Brings spoon to mouth
- Spoon into dish
- Spoon with food toward mouth
- Correctly takes food from spoon

#### Inappropriate behaviors

- Kicking
- Twisting body in high chair
- Tossing head
- Gagging
- Grinding teeth
- Pounding
- Rotating motion with hand
- Attempting to handle food
- Grasping bowl
- Pounding with spoon
- Throwing spoon

The nine baseline sessions were more than would normally be employed. This was to facilitate a research project by a senior nursing student under the supervision of the author (3).

## BASELINE OBSERVATIONS

The sessions lasted an average of 20 minutes. During this time, the mother spoon fed Stevie from one dish at a time. She spoke warmly to Steve when offering him spoonfuls. She praised him when he took the food. She scolded him in a warm, coaxing way when he refused the food, kicked his chair, and the like. When Stevie did not eat well or behaved inappropriately, the mother suggested that perhaps he was "coming down with a cold," or, "He just isn't feeling well."

Stevie showed little interest in the feeding. He did not look at or touch the bowl or spoon. Nor did he open his mouth in anticipation of food. Occasionally he gazed at his mother, half grinned, and laughed in response. Stevie did not sit well in the high chair. In fact, he continuously slipped down until he hung rather precariously. Mrs. S. then put her hand under his shoulder and hoisted him up. He frequently kicked his high chair, twisted his body, tossed his head, pounded on the chair, and ground his teeth.

From the baseline data, we established that Steve had no spoon-feeding behavior and that he had had little opportunity to develop independence in this area, although he currently had the essential skills.

### SHAPING FEEDING BEHAVIOR

Next, we established a program to develop spoon feeding by successive approximation. His mother was included in the planning from the initial collection of baseline data. Sharing the data with the parents is important to foster their cooperation and a sense of trust in you.

The mother was given the following instructions as we began the sessions to teach Stevie to feed himself:

1. When Stevie does something that is part of the activity of spoon feeding (such as looking at or touching the spoon), immediately give him verbal praise and a bite of food.  
(Assumed to be positive reinforcers)
2. The most important aspect of reinforcement is immediacy and consistency. Immediately reinforcing his behavior each time he does what you want enables him to associate his actions with getting food and praise.
3. Progressively, he will have to do more and more to get food and praise.
4. When Steve does something undesirable, immediately say, "No Stevie," remove the bowl and spoon, and turn away from him for about five seconds or until he stops. Again, the effectiveness of negative reinforcement depends upon immediacy and consistency.
5. At the end of each session, we will look at the data that have been recorded.

Stevie was seated in his high chair with his mother seated at the end of the nearby kitchen table. The mother was facing him and he had the food to her side on the table. She held a bowl of cereal with a spoon in it in her right hand. With her left hand, she tapped Stevie's spoon on the tray of his high

chair. The instant he looked at his spoon she praised him, "Good boy, Stevie," and gave him a spoonful of cereal using her left hand. Spoon-feeding behavior was being developed by successive approximation. The shaping sessions were held two consecutive mornings each week. Mrs. S. agreed to feed Steve as usual--at all other times.

This meant that the mother's use of reinforcement and the child's responses could be closely evaluated and changes made as necessary to make the teaching most effective. The progress would have been more rapid had the sessions been at each meal. Visits could not be made that frequently, and we decided to apply reinforcement only when the observer was present, so that bad behaviors would not become established.

### FROM SHAPING TO FADING

During the first four sessions, he progressed from looking at the spoon to reaching toward it, to touching it, to grasping the spoon. His undesirable behavior stayed within the range of the baseline. From the fourth through the ninth session, his spoon-feeding behavior progressively declined in frequency and in level of response. He stopped grasping the spoon and touched it less and less. His undesirable behavior correspondingly went up.

We evaluated the situation through use of the data and determined to use the technique of fading rather than shaping. The data implied that shaping was not effective for Stevie. A program should be developed that enables the child to succeed. Now getting a bite of food was contingent on some behavior directed toward independent spoon feeding.

In view of the hypotonic character of his motor response, we determined that a more efficient program would be him in the motor response. In fading, the therapist initially participates in the desired terminal response (correct spoon-feeding behavior) and gradually "fades out" her action as the child functions more independently.



## FADING

Mrs. S. positioned herself as before, facing Stevie's left side. She placed the bowl of cereal on the tray of the high chair. Steve had previously grasped the spoon with his left hand, so she placed it in his left hand. With her left hand around his on the spoon, she guided him through the spoon-feeding sequence. Stevie was helping deliver a bite of food to his mouth. Reinforcement is delayed less using this technique. She began using this method for all his meals, after several experimental sessions were observed.

By the second observed session, Stevie grasped the spoon correctly by himself and opened his mouth in anticipation of bites. By this time, Mrs. S. was able to move her hand from directly over Stevie's hand to the wrist. Stevie's undesirable behaviors fell to a new low. This was one of the best indications that the program was suited to Stevie's capabilities.

By the third observed session, Stevie began pulling the spoon toward his mouth and guiding it in. His mother refilled the spoon, supported Stevie's wrist, and waited for him to bring the spoon to his mouth. By the fifth observed session, Stevie was picking up the spoon, bringing it to the bowl, and rapidly bringing the spoon to his mouth with mother supporting only his forearm. He had the most difficulty scooping the food from the bowl. Thus, he gained independent functioning in all the elements of spoon feeding, with the exception of scooping. Our experience has been that this is difficult for children who have motor problems.

A recent thought has been that perhaps scooping has been difficult for us to teach because children learn first to "dig" not scoop. We are now interested in trying to teach a digging motion--and on a few children it seems to have been effective.

Mrs. S. continued to praise Stevie. The theme in her conversation was, "You are growing up." She would repeat, "You're such a big boy now," and, "Show the nurse what a big boy you are." The mother's feelings of adequacy seemed to increase as she began to succeed in teaching her son.

She was more relaxed in handling him and in tolerating a mess. For the first time, she spoke of Stevie as being mentally retarded. She expressed her feelings about Stevie and the effect on her family.

## VISUAL HANDICAPS

When the feeding program had been well established, we concentrated on two other areas. One was Stevie's relative lack of interest in the environment. Over repeated observations, one behavior seemed to indicate a visual problem. When playing with an hour-glass rattle, he held it about an inch from his eyes.

The ophthalmologist who saw Stevie determined that he was severely myopic. There was debate as to whether a child who was not walking and who was essentially uncooperative when examined should or could be fitted with glasses. The group advocating correction of any possible handicaps of an already handicapped child won, and glasses were prescribed. Special nonbreakable lens were fitted for Stevie and held in place with an elastic piece, similar to that of basketball players. He wore his glasses like a charm.

The immediate difference in his vision was recognition of different people. He no longer cried when children came in to play with his older brother. His interest in surrounding toys was minimal, however, until he had worn the glasses two or three months. This is to be expected, as a person needs at least that amount of time to become accustomed to taking in a new form of visual stimuli and to organize what he sees. He still prefers smooth surfaces, although the parents have systematically encouraged contact with soft, hard, and scratchy textures.

He has, on occasion, finger fed himself with foods such as bananas. Recently seeing him explore food with his hands has been delightful, even if the food sometimes ends up on the floor. This behavior must be encouraged, because it represents exploratory behavior that a child needs to master his environment.

## WALKING

The parents were particularly anxious to know if Stevie would walk. Several sessions with the physical therapist and neurologist were arranged to assess the potential for locomotion. When Steve was 30 months of age, the interdisciplinary team was impressed with the continuing hypotonia and behaviors such as scissoring in the lower extremities. Although he had no definite athetosis, the therapists speculated that athetoid movements might become more evident as he continued to develop. At this time, they believed he would profit from physical therapy. There was no indication that he would not walk, but he first needed to develop several of the prior skills.

Considering developmental principles, we again observed Stevie for both behaviors he did and did not have that comprise walking. He had moderate head control and truncal support while sitting. He did not have equilibrium responses while sitting or kneeling. His parachute responses were not developed by 12 months. When the infant is held up in the air and plunged toward a hard surface, face down, he should extend his arms as if to catch himself. Thus even before we attempted to get him on his feet, a program was outlined with the parents for specific exercises to help Stevie develop prior walking behaviors.

Stevie was swayed while in the sitting position and taught how to catch himself by putting his arm out to the side. The mother and father carried out exercise sessions three times each day, repeating these movements 15 times at each session. After equilibrium responses were evident in the sitting position, the progression was to place him in a kneeling posture and follow the same schedule. In addition, Stevie was rolled on a partially inflated, plastic beach ball. Rolling back and forth begins to teach a child automatically how to balance himself with feet and hands. Stevie was placed in a kneeling position in front of his mother's knees, to promote more active trunk support. The parent then encouraged him by tugging at his shirt edge to come up from a bent kneeling position to upright kneeling with his head in a vertical axis with his body.

When upper extremity control was well established and equilibrium responses were evident, emphasis was placed on strengthening his control of the lower truncal area and extremities. This was accomplished by placing him in a kneeling position for 10 to 15 minute periods, usually on the davenport, so he could watch the activity outdoors. Efforts to teach him to ride a tricycle were initiated. His feet were strapped to the pedals, since he had difficulty holding them on. In addition, he was encouraged to learn the steps of coming from a supine position to sitting and from kneeling to standing.

## CONCLUSIONS

Even though the diagnosis of Stevie's problem has not been clearly evident, the nurse has been able to observe the abilities he does have. From that point, with consultant help from other team members, she has been able to plan a program based on a developmental approach to teaching skills.

Stevie's family have been eager to carry out the programs suggested. We have planned with both parents, because, even though the mother generally carries out the programs, the father can give the day-by-day support. Visits were made as often as twice a week during the initial phase of a program and then were only necessary at two-month intervals. Interestingly, if the visits were less frequent than two months, the parents tended to lose interest in the program. The nurse periodically evaluated Stevie's progress. It is extremely important for parents to see the changes that occur. Sometimes, this is difficult because of the slowness. Often, as in this case, the nurse has the responsibility to coordinate the skills and knowledge of many disciplines to the practical implementation in the home environment.

In this home-oriented family, it was important to plan recommendations that could be carried out within the home and not attempt to have them actively use outside resources. Parents must be helped continually to establish their goals for the child in relation to what is accomplishable, so that they can function in an adequate child-rearing role.





99. 14

PIAGET - SIX STAGES -								PLAY MATERIAL ACTIVITY
STAGE	AGE	BEHAVIOR	IMITATION	PLAY	OBJECT	SPACE	CAUSALITY	
Reflexes	0-4	Sucking vision hearing prehension	assimilate crying of others into own	none autistic	u n d e t e r m i n e d	collec- tion of spaces	action tension need rhythm	pacifier mobile red balloon- overhead soft tone bell cuddle tops rattle rocking-mas- sage holding carry out of doors
Primary 2 A	5-7	hand to mouth coord.	habitual observe others		u n d e t e r m i n e d	collec- tion of spaces	Begins to see... difference in action & result	mobile to mid- line shake rattle- manipulate- toys exposure to shapes, different sizes, textures, weights flashlight mirror work tactile stimu- lation for body parts bouncing swinging in a blanket
Adap- tive Circular	8-11	head move in coordina- tion & vision- hearing		plea- sure  of  activity				
2c		direct object in mouth sucking					self- acting on things	
Secondary 3A	18- 20	reach for objects- likes visual novelty	imitate sounds and movement in repertory	plea- sure of acti- vity	attempt to recap- ture motor rela- tions and objects	depth near & far coor- dinate vision and prehen- sion	sees self acting on things	nesting cans pots & pans & lids in kitchen. soft-colored nesting boxes mirror work squeek toys marbles in plastic, clear box or tube- turning handles dials, wheels develop repertoire of put in-take out shake-rattle squeeze
3B	21- 25	Grasp object. transfer from hand to hand						
cc	25- 29	Changes body po- sition to reach ob- ject-uses hands independ- ently- regards longer						

Stage	Age	Behavior	Imitation	play	Object	Space	Causality	Play Material Activity
Coordi- nation Second- ary adapta- tion	30- 33	Manipu- late objects with both hands. Combine two ob- jects in one ob- ject	imitate new models & sound patterns	ritual activity at bed- time	object perma- nence	masters relation of self to ob- ject	causality recogniz- ed only where he acts	Squeeze box horn harmonica jack in the box zxylophone bead stringing balls, roll. - bounce castinets
5A								
Tertiary adaptive circular	42- 47	search for ob- ject out of sight. predicts out-come	active delibera- tion	turns ritual acti- vity into play	looks where object was last seen	under- stand object as se- parate from self and inde- pend- ant of childs own a- ction	sees self as cause of & recipient of cause	large straws bubble pipe party favor blowers prepare for eating peek-a-boo scarf over face wave bye-bye exposure to hot & cold cover toy with scarf remove toy "Where did it go?"
5B	48- 51	repeat actions original stimulus- solicits stimuli						
5C	52- 55	help uses gestures & res- ponds to them						pat-a-cake work for toys or food in container with a lid - in a paper bag in various size boxes
6A	56- 59	responds to single commands	imitate new & complex models	true make- believe fantasy	master of the exist- ence of ob- jects as things separ- ate- both from self & each other	keeps account of move- ment in space	can for- see an effect given its course	puzzles-put in pieces upon request string beads by color on request put play peg people in pull toy
preven- tion new means thru Mental combi- nations								

Stage	Age	Behavior	Imitation	Play	Object	Space	Causality	Play Materials-Activity
6B	60-64	uses objects & people to gain goals follows sequences of displacements Identify objects on request can imitate after delay	imitate domestic activity					use of flannel board buttoning (large ) zippering latches and locks garden tools & household equipment for imagination and role-playing dolls-playhouse area nested eggs to unfold Books (simple pictures highly familiar to child
6C	65-70	identify objects in pictures  identify body parts						simple stories, told dramatically- simple songs, music, finger plays, rhythm instruments, action songs. Simple games, identify body parts going under and over objects, overcoming physical objects in pathway throwing ball on command





## DEVELOPMENTAL SCALE FOR LANGUAGE LEVELS

The developmental scale is intended to provide the teacher with standardized information regarding receptive and expressive language development in the normal child. It should not be used as a strict criterion for the mentally deficient child as the child's language functioning often lags behind his mental development. Therefore, the teacher needs to view language development as sequential. Thus she must guide the child through a continuum from receptive to expressive functioning. After having determined the child's current level of functioning, the teacher must guard against putting the child in competition with an expected mental or chronological age.

This scale may also be of use to the psychologist in deciding what information to include on his form "Language Data from Standardized Tests."

### DEVELOPMENTAL SCALE

#### RECEPTIVE LANGUAGE

Turns to sound of bell (Cattell) 6 Months

7 Months

Adjusts to words by behavior change  
(Gesell)

Responds to "Bye-bye"

10 Months

Adjusts to commands (Gesell)

11 Months

Responds to inhibitory words  
(Gesell)

12 Months

15 Months

Points to nose, eyes, hair  
(Gesell)

18 Months

Identify 4 parts of body (Gesell)  
Identify objects by name (Binet L.  
Score:  $\frac{1}{4}$  4)

Obey simple commands (Binet L. Score:  $\frac{1}{2}$  2)  
"Give me" - "put spoon in cup"

Repeating words (Merrill-Palmer)  
Score: 4 of 4 words

Repeating word groups (Merrill-Palmer)  
10 of 14 words correct

#### EXPRESSIVE LANGUAGE

Crows, laughs, vocalizes for pleasure  
(Gesell)  
Imitates sounds - babbling (Vineland  
item #10)

Uses double syllables - mama

Vocalizes during play (Gesell)

One word speaking vocabulary

Two word speaking vocabulary  
(Cattell)

Uses jargon and gestures (Gesell)

One word verbal response includes  
naming common exclamations and  
greetings. Vocabulary of 50% are  
nouns. Articulation: uses initial  
vowels and consonants.

2 Years

Vocabulary consists of 1/3 nouns (McCarthy)  
Sentence length 2-3 words (McCarthy)

Asks to go to toilet by verbal or gesture  
indication (Vineland #35)

Uses "I, you, me" with partial discrimination  
(Gesell)

Names familiar objects and people (Gesell)

Refers to self by name

Verbalizes immediate experiences (Gesell)

Articulation: uses consonants p, b, m

## RECEPTIVE LANGUAGE

## EXPRESSIVE LANGUAGE

### 2 1/2 Years

Identify objects by use (Binet L.  
Score:  $\pm$  3)  
Identify parts of body (Binet L.  
Score:  $\pm$  4)  
Child has concept of one "put one block  
on paper" - (Gesell)  
Repeat two digits (Binet L.)  
Identify objects by name (Binet L.  
Score:  $\pm$  5)  
Picture vocabulary (Binet L. Score:  $\pm$  9)  
Repeating word groups (Merrill-Palmer)  
13 of 14 words correct  
Action Agent Test (Merrill-Palmer)  
Score: 6  $\pm$   
Can give the objects of six actions as what  
flies, sleeps, bites, scratches, swims  
(Gesell)  
Can give the use of common objects i.e.,  
"what do we do with the spoon" -  
response "eat" (Gesell)

Naming objects (Binet L. Score:  $\pm$  4)  
Three word simple sentences (McCarthy)  
Vocabulary consists of 1/4 nouns, 1/4 verbs  
and pronouns (McCarthy)  
Uses past tense of verbs, plural nouns  
(Gesell)  
Use of "I" in reference to self (Gesell)  
When looking at a picture book, the  
child will state an action when asked,  
"What is he doing?" (Gesell)  
Articulation: Consonants mastered b, p, m  
(Van Riper)  
He knows songs and rhymes (Shield of  
David)

### 3 Years

Picture Vocabulary (Binet L. Score:  $\pm$  12)  
Repeats three digits (Binet L.)  
Action Agent Test (Merrill-Palmer)  
Score: 10 of 20 words correct  
Obeys two prepositions "put the ball on  
the chair" (Gesell)

Spontaneous relation of experiences,  
content and detail more important than  
language form (Vineland #44)  
Adjectives, adverbs, pronouns,  
conjunctions, increasing in use  
(McCarthy)

### 3 1/2 Years - 42 Months

Obeys simple commands (Binet L. Score:  $\pm$  3)  
Picture Vocabulary (Binet L. Score:  $\pm$  15)  
Identify objects by use (Binet L.  
Score:  $\pm$  5)  
Comprehension I "What do you do when you  
are thirsty?" (Binet L.)  
Action Agent Test (Merrill-Palmer)  
12 of 20 words correct

Response to picture level I (Binet L.)  
Sentence length 4-5 words (McCarthy)  
Mature use of pronouns (McCarthy)  
Articulation: Consonants mastered: w, h  
(Van Riper)

### 4 Years - 48 Months

Picture Vocabulary (Binet L. Score:  $\pm$  16)  
Pictorial Identification (Binet L.  
Score:  $\pm$  3)  
Comprehension Level II (Binet L.)  
Memory for Sentences I - "We are going  
to buy some candy for mother" (Binet L.)  
Action Agent Test (Merrill-Palmer)  
12 of 20 words correct  
Responds to appropriately with gesture and  
vocalization to what do you do when you are  
thirsty, sleepy, hungry?  
(Shield of David)  
The child carries out requests with four  
prepositions (in, out, beside, behind,  
under, in front of) (Gesell)

Sentence length 4-5 words (McCarthy)  
Pronouns, prepositions, conjunctions in  
stable relationship to other parts of  
speech. (McCarthy)  
Articulation: Consonants mastered: d, t,  
g, k (Van Riper)  
Compound and complex sentences reach  
6 to 7 % (McCarthy)  
Counts three objects (Shield of David)



## RECEPTIVE LANGUAGE

## EXPRESSIVE LANGUAGE

### 4 1/2 Years - 54 Months

Repeats four digits (Binet L)  
Three commissions (Binet L) - Carries out  
complex requests in three parts  
Pictorial Identification (Binet L)  
Score:  $\pm 4$   
Action Agent Test (Merrill-Palmer)  
14 of 20 words correct  
Opposite Analogies (Binet L)

Parts of speech: 19% nouns, 25% verbs,  
15% adjectives, 21% pronouns,  
7% adverbs (McCarthy)  
Consonant production 90% or more correct  
(Metraux)  
Consonant sounds mastered: n, ing  
(Van Riper)  
Sentence length 4-5 words (McCarthy)

### 5 Years - 60 Months

Definitions (Binet L Score:  $\pm 2$ )  
"What is ball?"  
Memory for Sentences (Binet L)  
"Jane wants to build a big castle in  
her playhouse."  
Action Agent Test (Merrill-Palmer)  
16 of 20 words correct  
Comprehension II (Binet M Score:  $\pm 2$ )  
"What do we do with our eyes?"

Identifies and names: red, yellow, blue,  
green (Gesell)  
Sentence length 4-5 words (McCarthy)  
Can tell story accurately (Gesell)  
Can describe items and action in picture  
(Gesell)  
Can name following coins: penny, nickel,  
dime (Gesell)  
Articulation: masters consonants f, v





HOME PROGRAM  
for  
LANGUAGE STIMULATION

prepared by: SARAH DIXON,  
Speech Therapist  
Fircrest School

Dear Parents:

I have found through my experience in working with language delayed children that there is so much that you can do with your child in your own home. I have outlined a very specific home program which can be followed day by day. You may already be carrying out many of our suggestions without even being aware of the valuable stimulation that you are giving your child. However, if you are not doing some of these things, then give them a try over a period of weeks.

First of all, let me remind you that your child is an individual. He is not like any other child in the world. Some children are bubbling over with energy; others are very quiet and serious. Some are plump and round; others are long-legged and slim. Children not only look and act differently, they are different! That is why each and every little child is so very special. Don't be tempted to compare your child with his brothers and sisters or with Aunt Jane's child or with a friend's child. Your child may be progressing quite well in his own way. What we want you to do is to help him develop at his own rate of speed and as fully as possible.

Before I begin listing the specific suggestions, let me remind you that your child will understand far more words than he will be able to actually say. Even we, as adults, have a far larger reading and understanding vocabulary than we use in talking. Therefore, throughout the Home Program suggestions, I will emphasize again and again the value of TALKING to your child all about what you are doing and about what he is doing. Even if he is not saying the words that he hears he may very well be understanding many more words than you are aware of. The way he will learn a new word is by hearing it used over and over. I will talk more about this later.

Let me begin by giving you some very general suggestions for language stimulation. These suggestions are outlined in a sequential order according to the progressive stages of language development. It is recommended that you read the entire list of suggestions very carefully so that you will have an idea of your goals. Then observe your child. Listen to him! Is he babbling? Does he seem to enjoy cooing and gurgling? Is he really making sounds and imitating sounds? If you make funny sounds to him will he attempt to imitate you? Is he actually trying to imitate words? Can he follow simple directions? If he is using words, is he combining the words into short phrases and sentences? Is he using pronouns? Just what is he saying and how is he putting words together?

Mother and Daddy, turn yourselves into good LISTENERS! How is your child really attempting to communicate? THIS IS YOUR FIRST ASSIGNMENT. Decide what your child is saying and how he is attempting to talk. This observation will be helpful to you in trying to decide where to begin in the Home Program outline.

## SUGGESTED ACTIVITIES:

1. Vocal Play. Vocal play activities are those activities in which you are going to play with sounds as a way of stimulating babbling. This cooing and babbling stimulation is good practice for future verbal behavior. Your child learns the way his tongue feels in his mouth when he makes funny noises. He also has the experience of hearing the way sounds are made when he says them. My first suggestion is for you to babble over and over to your child, such as "ba ba ba ba", "bee bee bee", "mama mama mama", "moo moo moo moo". Do this when you are bathing your child, when you are rocking him, or when you are sitting in the middle of the floor playing with him. Make it a fun time for you and your child. Your main goal is to encourage your child to begin making these sounds on his own. Very often he will not immediately attempt to imitate the sounds. However, later in the day you may hear him babbling to himself while he is in bed or when he is playing with his toys. It seems that this constant verbal stimulation really encourages a child to experiment with his voice on his own. Try it! You may be pleasantly surprised.
2. Make His Toys Talk. Sit down in the middle of the floor with your child and pull out all of his toys and simply play with them. All of those toys can make the most interesting noises! For instance, the car goes "beep beep", the airplane goes "whrrr whrrr - zoom", and the train goes "choo choo". Use your imagination, mother, and make up some funny noise that the dump truck could make as it goes over the bridge. See if you can encourage your child to make the toys "talk" too!
3. Animal Sounds. Go to the dime store and buy an assortment of little plastic farm and zoo animals such as: Farm animals - pig, horse, cow, duck, chicken, rooster, cat, dog, donkey, goat, etc. Zoo animals - bear, tiger, lion, elephant, giraffe, zebra, etc. If you cannot find the plastic animals then look for a book with animal pictures. The library is an excellent place to go. You can find what you want there and the use of the books is free. Here again, play with your child and let him hear you say the animal sounds over and over. Don't require him to say the animal sounds yet. After he hears you making the sounds he will usually begin trying it on his own. These animal sounds are excellent practice for later production of sounds in words. For instance, your child may not try to say the word "milk" which has the "M" sounds but he may try to say that the cow says "Moo moo". (If you can't think of a good sound that an animal would make, then make a funny face 'such as a giraffe would make') See if your child will imitate the face.
4. Household Noises. Call your child's attention to the water running in the bathtub and imitate the noise that it makes in some way yourself. For instance, "Listen! The water goes glub, glub, glub". Have daddy's razor, mommy's hair dryer, etc. There are endless "listening opportunities" in your home to incorporate into your "Home Program of Speech Stimulation". The purpose at this point is to encourage your child to become "sound conscious" so that his ears literally prick up when he hears a noise.



## 5. Imitation of Body Movement, Tongue Movements and Facial Expressions.

A child learns by imitation, as I have said before. We eventually want him to learn to imitate words and sentences. We know, however, this is often too much to expect at first. Let's begin by teaching your child just how to imitate! Play "follow the leader". Have your child imitate large movements such as swinging his arms, jumping, crawling, kicking, touching his toes, etc. When he is able to do this, then progress to a more difficult task of imitation of tongue movements and facial expressions. Exercises with tongue and lip movements are an excellent way to provide readiness for speech development. Sit in front of the mirror with your child and wiggle your tongue back and forth, and make it click up and down. See if your child will imitate what you are doing. Again, make this fun a game for your child so that he is never under any kind of pressure. Make funny faces, move your tongue back and forth, and open your mouth wide. See if your child will try to do what you are doing.

6. Pantomime. Encourage your child to pantomime. That is, encourage him to "talk" with his hands. This gesturing is a form of expressive language or "talking" and will provide a way for your child to express himself when he still does not have the vocabulary. For instance, imitate an elephant waving his trunk, or an airplane flying through the air. Play "pretend games" where your child can pretend he is brushing his teeth or putting on his socks. Do not overdo this. We want to encourage verbal expression above all. This exercise, however, can be done for fun and will give you an idea of your child's understanding of activities in his everyday routine.

7. Teaching an Understanding of Single Words. You may begin to see that your child is understanding single words or can follow simple directions. For instance, he may recognize the different names of people he sees often. He responds appropriately to "no no" and "bye bye". Generally, a child will begin using words on his own that he has heard others say. However, we are not talking about what a child normally does, we are talking about a child such as your child, who is slow in beginning to talk. He does not seem to automatically pick up these words that he hears, therefore he needs to hear words over and over and over. A child must understand what a word is before he will ever attempt to say it. When we say that you must say a word over and over for your child, we mean just that! REPEAT - REPEAT - REPEAT! Let's use an example to illustrate what we are trying to say:

Let's teach your child that the word MILK is the white liquid that he drinks.

Mother, here is what you would say:

"Johnny, do you want your milk?" "Here is your milk."

"Drink your milk." "The milk is all gone."

By repeating in this manner, your child will soon learn that when you say the word "milk" to him, you mean the white liquid that he drinks.

When you feel that your child is actually understanding some words, then he is probably ready to learn some basic noun vocabulary. You, as parents, must judge for yourselves when your child is ready for this kind of verbal stimulation. If you have stimulated your child as suggested in our activities (1) through (6), then he is probably ready for this step. Try him and see! Before you begin actually teaching your child these words, try and find out just how many words he actually understands. Most of the words listed below are some of the first words that young children use during their early years. Throughout the next week or two, observe your child and see if you can determine how many of these words he really knows. During the day ask him to show you where various things are in your home. Make a game out of it. For instance, see if your child can run to the refrigerator before you clap your hands. If he identifies it correctly, then you know that he knows the word "refrigerator". Put a check mark by the words that you are sure your child actually understands.



A child's basic noun vocabulary should include these words:

## BASIC NOUNS

### PARTS OF THE BODY

Face	Cheek
Head	Hair
Hands	Fingers
Nose	Eyes
Mouth	Teeth
Ears	Arms
Legs	Toes
Feet	Foot
Back	Neck
Lips	Tongue

### TO EAT OR DRINK

Water	Juice
Milk	Bottle
Bread	Butter
Banana	Soup
Cookie	Candy
Sucker	Apple
Cake	Jelly
Ice Cream	
Meat	Potatoes
Cracker	Sandwich
Coffee	Coke
Cereal	Eggs

### ROOMS IN THE HOUSE

Kitchen	Bathroom
Living room	Dining room
Bedroom	
Downstairs	Upstairs
Basement	Garage

### IN THE KITCHEN

Sink	Shelf
Cabinet	Stove
Refrigerator	Oven
Dishes	Napkin
Pots	Pans

### IN THE LIVING ROOM

Sofa	Chair
Table	Desk
Lamp	Rug
Television	TV
Radio	Record Player
Stereo	Hi Fi
Door	Window

### PEOPLE

Mama	Mommy
Mother	Father
Daddy	Man
Baby	Girl
Lady	Woman
Sister	Brother
Aunt	Uncle
Grandma	Grandpa

### MEALS

Breakfast	Lunch
Dinner	Supper
Snack	

### TABLEWARE

Knife	Fork
Spoon	Plate
Glass	Cup
Dish	Bib

### IN THE BEDROOM

Bed	Pillow
Crib	Blanket
Sheet	Covers
Chest	Dresser
Table	Lamp
Closet	

### IN THE BATHROOM

Comb	Brush
Toothbrush	Toothpaste
Soap	Washcloth
Bubbles	Towel
Tub	Bathtub
Sink	Toilet
Shower	

### OUTDOOR OR PLAY EQUIPMENT

Swing	Sandbox
Shovel	Pail
Cart	Slide
Wading Pool	Park

### TO RIDE IN

Car	Bus
Train	Airplane
Wagon	Stroller
Bike	Tricycle
Truck	Taxicab
Boat	

### CLOTHING

Shoes	Pants
Shirt	Blouse
Overalls	T-Shirt
Dress	Slip
Socks	Boots
Coat	Sweater
Jacket	Hat
Pajamas	Slippers
Underpants	Panties
Shorts	Belt
Raincoat	Suit
Tie	Pocketbook

### TOYS

Ball	Drum
Car	Truck
Doll	Boat
Gun	Buggy
Blocks	Game

### ANIMALS

Rabbit	Bunny
Dog	Cat
Fussy cat	Kitty
Puppy	Cow
Fish	Bear
Bird	Lion
Horse	Sheep
Pig	Duck

### NATURE

Grass	Tree
Flower	Sun
Rain	Moon
Snow	

If your child has difficulty in identifying these basic nouns for you, then here is where we suggest that you begin:

1. Make a Scrapbook. A fun and easy way to begin teaching these words to your child is to find pictures of them, cut them out, and paste them in a scrapbook which you have picked up at the dimestore. Children love this, especially when it is their very own scrapbook! Make the pages very simple. Put only 3 or 4 pictures on a page so your child doesn't have too much to look at. Begin with the body parts. If he knows those, then go on to the house. Cut out a picture of a house. Then simply go room by room and find pictures of the furniture that goes in each room. Along with the house, it is good to talk about the family. You might even get photographs of the various members of the family and paste in the book. Don't be in a hurry. Be sure he knows the words on the page you begin on before you move on to the next page. Encourage your child to try to say these words after you. They may be difficult for him to say, but don't worry about that at this point. If he even attempts to say the word, praise him highly!
2. Make a Trip to the Public Library. We find that books are one of the best ways to provide language stimulation. If you are teaching your child the names of the animals, then go to the library and let him pick out the animal books he wants to bring home. Let him then point out the animals to you in his books.
3. Make a Trip to the Dimestore. A fun way to teach the articles of clothing is to buy a large sized paper doll. A boy may not be delighted with this idea, but it would be fun for your little girl. Also, look for the plastic animals, the toy dishes and utensils, and the toy plastic furniture. Actually, you could make a doll house out of a pasteboard box and let your child put the furniture in the proper rooms. What a fun way to learn the names of the furniture and the rooms in the house.



4. Learning with Picture Lotto Games. These games are wonderful for teaching categories and for beginning training in the matching of pictures. They are usually found in a book store or in a good dime store. It is a game like the old fashioned BINGO except you are matching identical pictures, such as a chair to a chair, or a dog to a dog. This is an easy game and can provide preparation for teaching your child to take turns. "I'll pick up a card, then it is your turn." Your child may not be ready for this game. Try it out with him, if he loses interest put it away for awhile and bring it out on some rainy day a couple of months later.
5. Make a Trip to the Grocery Store and to the Park. Of course each and everything you do all day, mother, can be a teaching and TALKING TIME for your child. Teach the names of foods by taking your child to the store. Take a walk in the park as a way to teach the names of things outside. Your child could even gather up samples of things to paste in his notebook - leaves, a rock, bark off of the tree, a flower, etc.

Soon you will begin to notice that your child is beginning to follow simple directions.

Such as: Hurry up	Slow down	Wash your hands
Let's go	Shut the box	Brush your teeth
Wait a minute	Pick it up	Come here
Stop it	Shut the door	Shut your eyes
No, no	Open the door	Comb your hair
Don't do that		

#### 6. Games:                    THE "DO AS I SAY" GAME

As your child begins to understand simple directions, then play a game with him where he has to "Open the door", or "Turn off the light". See if he can follow your directions without your gesturing or pointing at all. Can he understand the verbal direction?

#### THE "BRING ME" GAME

Have your child play a game where he gets to bring you the toy you ask for. If he brings the right one then reward him with a jelly bean or some little piece of candy. Try and see if he can then bring you two or three different toys. Here again, don't point to what you want. Let's see how many words he is really understanding.

After your child is able to say many single words, then the next step is the teaching of "ACTION WORDS". First I will list the basic verbs and then I will suggest some ways in which these may be taught along with the basic nouns.

#### BASIC VERBS

eat	drink	wear (put on)	read
open	close	shut	walk
stand	sit	ride	fly
go	climb	swim	jump
burn	hop	come	catch
throw	hear	listen	look
see	talk	sing	wash
feel	smell	laugh	cry
draw	left	paint	write
play	put	pick	drop
break	push	carry	fall
lay	spill	hurt	bring
give	hang		



1. Test Your Child's Understanding of the Verbs. This may be done, again, with the "DO AS I SAY GAME" as suggested in identifying the nouns. Put a check mark by the verbs that you are certain that your child understands.
2. Teach the Verb With a Noun. If your child does not seem to understand these verbs, then teach each verb one by one. The easiest way is to combine the verb with a noun. For instance, if you want to teach the verb "drink", then talk to your child in this manner:  
  
"Let's drink some milk. Look, Mommie is drinking. Do you want to drink. Okay, here, drink some milk."  
  
Say it over and over and over until he finally puts the glass to his lips to drink when you say "Drink your milk".
3. Cut Out Magazine Pictures of People Doing Things. As with the nouns, look through books or magazines and find people that are doing things. The best way to teach ACTION WORDS is to actually show the picture of someone "climbing", "singing", "pushing", etc.
4. "Guess What I'm Doing" Game. If your child is beginning to use some verbs, then play a game where you "act out" something and see if he can guess what you are doing. Such as, pretending that you are swimming, laughing, painting, etc. Brothers and sisters can join in this fun guessing game.

### PRONOUNS

After your child has learned approximately all the basic nouns and basic verbs you can then begin encouraging him to combine them in a simple phrase and begin actually teaching the pronouns. These are the ones that are usually learned first:

mine	me
you	I

1. Teach the Pronoun with the Verb. Play the "What Am I Doing" game. Let the child guess what you are doing and then repeat, "Yes, I am singing". Then let your child do something, and then tell you what he is doing. Encourage him to say "I". "You" can be taught the same way. "You are climbing."
2. The "I Want" Game - "Give Me The - - -". Put a lot of toys out in the middle of the floor. Say, "I want the boat". "Give me the boat."

Pronouns are usually picked up rather quickly after your child has begun combining the verb with a noun and begins attempting to ask for things using speech.

Your child may now be using simple phrases and beginning to use speech for communication. That is, he is actually using speech to ask for things that he wants; "Give me a cookie", "I want a drink". I now want to give you some suggestions on ways in which you can increase your child's vocabulary by encouraging him to use PREPOSITIONS, ADJECTIVES, and ADVERBS, NUMBERS AND COLORS. These can be fun to teach and your child will probably pick them up rather quickly. Let's begin with prepositions:

## PREPOSITIONS

on	in
under	behind
beside	in front of

1. "Where is the Bear?" Game. Use a toy teddy bear or any favorite toy. Use a chair with a back on it so it has a "front" and a "back". Then put the bear under the chair and ask, "Where is the bear?" See if your child can tell you that it is under the chair. Continue using all of the prepositions and see if he can tell you "where" the bear is. Then play the game in reverse; give the direction "Put the bear on the chair; under the chair; behind the chair", etc. See if he can follow the direction.
2. Use Magazine Pictures. Look at the picture and tell me "Where the dog is".

## ADJECTIVES

big	little
fat	skinny
hot	cold
short	tall
soft	hard
smooth	rough
clean	dirty

1. Similar activities described above can be used in teaching these adjectives. For instance, look at the picture and tell me which man is FAT.
2. Feel This with Your Hand. This can be done during the walk in the park. "Feel the bark on the tree. Is it rough or smooth?". "Feel the ice. Is it hot or cold?".

## ADVERBS

fast	slow
loud	soft
high	low
early	late

1. Action Words. Do something, such as - walk very fast. Then ask your child, "Am I walking fast or slow?" "Am I talking loud or soft?" "Can you reach up high or way down low?" "Are you going to be early or late?".
2. Magazine Pictures - Showing Action. Does that man look like he is running fast?

## COLORS

red	orange
green	purple
blue	pink
yellow	brown
black	white

1. Colors should be taught one at a time. For instance, take the color "red". Talk only about red. "Look, this is red. See, it is red." "Is this red? No, this is not red." "Is this red? No, this is not red either." (Don't use another color such as "No, this is green". Simply say it is either RED or it is not RED.) When

you are sure that your child knows the color red, then go on to another color and follow the same procedure. Look all over the house. Find everything that is GREEN, if that is the color that you are teaching.

2. Use Crayons. "Color the ball RED." "Is that red?" "No, this is RED."

### NUMBERS

A child is generally expected to have a number concept equal to his age. For instance, if your child is 4 years old, then he should be expected to know only the numbers 1, 2, 3, 4.

1. Counting and Number Concept. Play with blocks, toys, pencils, and count the objects. Very often a child can count 1, 2, 3, 4, but he has no idea how many "2" then work on the concept of "2".

Give Me One Block. In teaching your child the concept of "1" and "2", have him put one block in your hand; then put two blocks in your hand. Stimulate him in this way until he has a number concept equal to his age.

2. How Old Are You? Can your child show you with his fingers how old he is? Can he tell you?

The last and final suggestion is to encourage your child to tell you a story. Use library books for stimulation. Get very simple ones with large pictures. See if he can tell you a short story by looking at three or four different pictures. You can never do enough of this kind of stimulation. The more stories your child can tell, the more vocabulary he will begin using. He will never stop learning new words if he is continually stimulated.

The most important thing to remember is to give your child a chance to talk. Provide him many opportunities during the day to express himself. In addition, you talk to your child.





## SUGGESTED LIST OF EQUIPMENT FOR NURSERY

### AGES 0-3 - ATYPICAL INFANTS

#### TOYS -

phones  
plastic fruits (big-little)  
that open and close,  
that has action, noise  
pull  
balls  
tricycles graduated sizes  
walkers (jumper)  
books with one picture per page  
flannel board  
dolls  
infant seat  
slide  
small ladder  
tables  
texture board  
straws  
blowing things (horns, feathers)  
high chair  
swings for babies  
materials for finger painting  
wagons  
strollers  
movie camera  
potty chairs  
barrel  
box "Busy Box"  
materials for tasting, smelling  
materials for textures  
cribs  
playpen (mesh)  
chairs  
rockers  
record player  
records  
electric tooth brushes  
mats for naptime  
mirrors  
standing tables or boards  
pencils, crayons, chalk, scissors  
house, simple, basic furniture  
black board  
pictures or objects of families and furniture  
misc. rooms

THE HISTORY OF THE  
CITY OF BOSTON

1780

THE HISTORY OF THE  
CITY OF BOSTON  
FROM THE FIRST SETTLEMENT  
TO THE PRESENT TIME  
BY  
JOHN HUTCHINGS  
OF THE BARRISTER AT LAW  
IN THE SUPREME COURT OF JUDICATURE  
IN NEW ENGLAND  
AND  
OF THE BARRISTER AT LAW  
IN THE SUPREME COURT OF JUDICATURE  
IN GREAT BRITAIN  
AND  
OF THE BARRISTER AT LAW  
IN THE SUPREME COURT OF JUDICATURE  
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